

A REPORT OF THE CSIS
EUROPE PROGRAM

A New Security Architecture for the Arctic

AN AMERICAN PERSPECTIVE

Principal Author
Heather A. Conley

Contributing Authors
Terry Toland
Jamie Kraut

Researcher
Andreas Østhagen

January 2012



A REPORT OF THE CSIS
EUROPE PROGRAM

A New Security Architecture for the Arctic

AN AMERICAN PERSPECTIVE

Principal Author

Heather A. Conley

Contributing Authors

Terry Toland

Jamie Kraut

Researcher

Andreas Østhagen

January 2012

About CSIS

At a time of new global opportunities and challenges, the Center for Strategic and International Studies (CSIS) provides strategic insights and bipartisan policy solutions to decisionmakers in government, international institutions, the private sector, and civil society. A bipartisan, nonprofit organization headquartered in Washington, D.C., CSIS conducts research and analysis and develops policy initiatives that look into the future and anticipate change.

Founded by David M. Abshire and Admiral Arleigh Burke at the height of the Cold War, CSIS was dedicated to finding ways for America to sustain its prominence and prosperity as a force for good in the world.

Since 1962, CSIS has grown to become one of the world's preeminent international policy institutions, with more than 220 full-time staff and a large network of affiliated scholars focused on defense and security, regional stability, and transnational challenges ranging from energy and climate to global development and economic integration.

Former U.S. senator Sam Nunn became chairman of the CSIS Board of Trustees in 1999, and John J. Hamre has led CSIS as its president and chief executive officer since 2000.

CSIS does not take specific policy positions; accordingly, all views expressed herein should be understood to be solely those of the author(s).

Cover photo credit: **Top**, U.S. Navy 050824-N-8108S-001—A U.S. Coast Guard HH-65 Dolphin helicopter prepares to depart the Coast Guard cutter USCGC Healy (WAGB 20) to fly members of a science party to a remote ice floe, U.S. Navy photo by Aerographer's Mate 1st Class Gene Swope (released with ID: U.S. Navy 050824-N-8108S-001); **left bottom**, The U.S. Coast Guard Cutter Healy, a 420 ft. icebreaker homeported in Seattle, Wash., breaks ice in support of scientific research in the Arctic Ocean. The Healy is mid-way through a four month deployment, U.S. Coast Guard photo by Petty Officer Prentice Danner, <http://www.flickr.com/photos/coastguard-news/2869523258/>; **right bottom**, researchers from the NASA-funded ICESCAPE mission examine melt ponds and the ice around them north of the Arctic Circle, source: Wikimedia Commons, photo by NASA Goddard Space Flight Center.

© 2012 by the Center for Strategic and International Studies. All rights reserved.

ISBN 978-0-89206-701-5

Center for Strategic and International Studies
1800 K Street, N.W., Washington, D.C. 20006
Tel: (202) 887-0200
Fax: (202) 775-3199
Web: www.csis.org



CONTENTS

Acknowledgments	iv
1. Introduction: A New Security Environment in the Arctic Today	1
2. Drivers of Change	3
Economics	3
Border Protection and the Projection of Sovereignty	9
A New and Fraught Operating Environment	11
3. An Abundance of Governance, a Scarcity of Capabilities	13
4. A U.S. Security Strategy for the Arctic	17
NSPD-66	20
The United States as an Arctic Science Power	27
5. Designing a New Security Architecture for the Arctic	30
The Role of NATO	30
A New Role for NATO in the Arctic?	34
The Role of the Arctic Council	36
Filling the Void: An Innovative Security Architectural Design	37
The Role of Non-Arctic States	40
6. Conclusion	42
About the Authors	43



ACKNOWLEDGMENTS

The authors would like to thank the Geopolitics of the High North Project (GEONOR) and the Research Council of Norway, without whom this research would not have been possible. The authors specifically would like to thank Rolf Tamnes, director of the Norwegian Institute for Defense Studies, and his colleagues at the Institute for their encouragement, as well as Commander Aaron Roth, U.S. Coast Guard military fellow with the CSIS International Security Program, and his predecessor Captain Sean Murtagh, for their helpful insights. The authors would also like to express their gratitude to the many U.S. government officials, foreign officials, and experts who were very generous with both their time and knowledge in support of this publication. Finally, special thanks are given to Natalja Jegorova, research fellow with the CSIS Europe Program, for her attention to detail in fact checking and reviewing the report.

1

INTRODUCTION A NEW SECURITY ENVIRONMENT IN THE ARCTIC TODAY

There are two kinds of Arctic problems, the imaginary and the real. Of the two, the imaginary are the most real.—Vilhjalmur Stefansson, *The Arctic in Fact and Fable*

The Arctic will experience extraordinary economic and environmental change over the next several decades. Commercial, human, and state interaction will rise dramatically. More drilling for oil and gas in the region and growing shipping and ecotourism as new shipping routes come into existence are just a few of the examples of increased human activity in the Arctic. The rapid melting of the Arctic ice cap is now exceeding previous scientific and climatic predictions. A recent study shows that September 2011 marked the lowest levels of sea ice extent ever recorded in the northern polar region.¹ The polar ice cap today is 40 percent smaller than it was in 1979,² and in the summer of 2007 alone, 1 million more square miles of ice beyond the average melted, uncovering an area of open water six times the size of California. While estimates range from 2013 to 2060, the U.S. Navy's "Arctic Roadmap" projects ice-free conditions for a portion of the Arctic by the summer of 2030.³ Arctic economics and an increasingly ice-free and hostile climatic environment are on a direct collision course, driving a clear need for a new paradigm to meet pressing security challenges that Arctic nations have thus far been unprepared or ill equipped to address.

As the region takes on greater economic importance, the Arctic requires a comprehensive regional and global security strategy that includes an increase in regional readiness and border security as well as an enhancement of strategic capabilities. The security challenges are vast, including search and rescue, environmental remediation, piracy, terrorism, natural and man-made disaster response, and border protection. Compounding the challenge is the fact that regional players must function in an operational environment of severely limited satellite communication and hydrographic mapping.

Arctic coastal states have developed and issued national Arctic security strategies and accompanying documents that, albeit roughly, sketch out their political and security priorities in the region. These documents describe their national security interests and the intentions these states wish to pursue and defend. Each of the five Arctic coastal states—Canada, Denmark via Greenland, Norway, Russia, and the United States—touts its commitment to cooperative action while simultaneously bolstering its military presence and capabilities in the Arctic. Yet the

1. Georg Heygster, "Arctic Sea Ice Extent Small as Never Before," University of Bremen, <http://www.iup.uni-bremen.de:8084/amsr/minimum2011-en.pdf>.

2. John Roach, "As Arctic Ice Melts, Rush Is On for Shipping Lanes," *National Geographic*, February 25, 2005, http://news.nationalgeographic.com/news/2005/02/0225_050225_arctic_landrush.html.

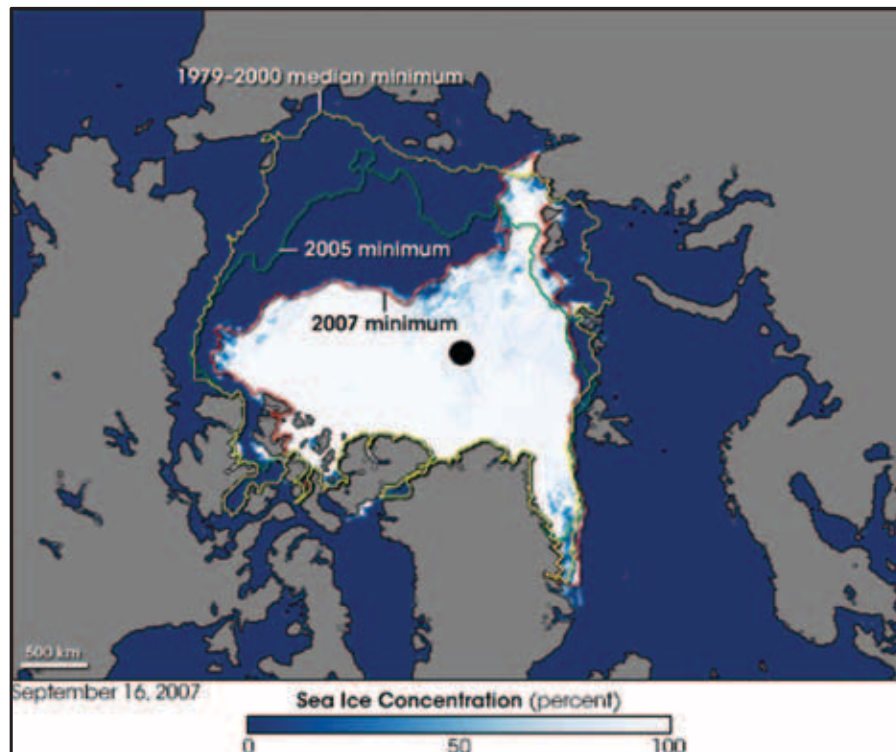
3. David W. Titley and Courtney St. John, "Arctic Security Considerations and the U.S. Navy's Roadmap for the Arctic," *Naval War College Review* 63, no. 2 (Spring 2010): 36.

complexity of competing national security interests is heightened by the lack of a single coherent structure through which these concerns can be addressed. Therefore, a fresh approach is needed for addressing regional Arctic security concerns within a global framework, while recognizing the mutual benefits of maintaining international cooperation, transparency, and stability in the Arctic.

Creating a twenty-first century security architecture for the Arctic presents the United States with a conundrum: U.S. Arctic policy must be given a significant sense of urgency and focus at the same moment that U.S. defense budgets are being reduced and U.S. military planners consider the Arctic to be “an area of low conflict.” How does one economically and militarily square this circle? Unfortunately, while there have been some international debate and discussion on the form and format of Arctic security cooperation, the debate has often focused on what issues related to Arctic security cannot be discussed rather than on those that can and should be addressed. However, these institutional and policy barriers have begun to break down as actors recognize both a collective lack of operational capacity and the increasing number of security actors that will play a role in this rapidly changing region. Arctic stakeholders have yet to discuss seriously, let alone determine, what collective security framework Arctic states should use to address the emerging security challenges in the region, despite signing legally binding agreements on international search and rescue and negotiating international agreements on oil spills and response.

It is within this context that the following report will analyze the drivers of change in the region, examine the key Arctic security actors and institutions, and explore the potential for a new security architecture for the Arctic.

Sea ice concentration since 1979.



Source: NASA, <http://earthobservatory.nasa.gov/IOTD/view.php?id=8126>. NASA image created by Jesse Allen, using Advanced Microwave Scanning Radiometer Earth Observing System data courtesy of the National Snow and Ice Data Center (NSIDC), and sea ice extent contours courtesy of Terry Haran and Matt Savoie, NSIDC, based on special sensor microwave imager data.

2

DRIVERS OF CHANGE

Economics

Oil and Gas

As the sea ice retreats, new commercial opportunities in the Arctic arise. Natural resources that had once been unreachable are becoming available for extraction. As the U.S. Energy Information Administration (EIA) estimates, the Arctic is projected to contain 13 percent of the world's undiscovered oil resources and 30 percent of the gas resources.¹ Because global production of oil and gas will not match global demand and the short-term outlook for the price of oil and gas will increase,² the desire to tap these resources in the Arctic will spur commercial exploration, and multinational companies will invest and become increasingly engaged in the region. At the same time, the need to develop new technologies and approaches for tackling the harsh and unpredictable climate for offshore drilling and transportation in the Arctic is urgent. The greater the potential profit and need to secure supply while maintaining, if not increasing, current production levels, the greater the tendency will be for companies to assume the greater risks inherent in operating in the Arctic.

Alaska has contributed significantly to meeting U.S. demand with oil from the oil fields on the North Slope close to the Arctic coast transported through the Trans-Alaska Pipeline. However, due to decreasing North Slope production and a lack of new fields, domestic pressure to explore offshore of Alaska is rising. Royal Dutch Shell has received preliminary approval from the Obama administration for its offshore drilling plans in its acquired leases in the Beaufort Sea. Exploratory drilling in the Beaufort Sea is expected to commence in 2012.³ Shell is also optimistic that it can begin to develop the reserves in the Chukchi Sea in the near future, but issues with environmental leases, oil spill preparedness and response, and disputes with local communities threaten to delay the process.⁴

Other Arctic coastal states are seeking similar economic advantage. In Norway, leases to the Barents Sea have been allocated, as Norwegian oil and gas production has fallen since its peak of

1. U.S. Geological Survey, "Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle," fact sheet, 2008, <http://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf>.

2. U.S. Energy Information Administration, "Short-Term Energy Outlook," June 7, 2011, 1, http://www.eia.gov/steo/steo_full.pdf.

3. Dan Joling, "Shell: No Beaufort Sea Drilling in Arctic for 2011," Associated Press, February 3, 2011, <http://finance.yahoo.com/news/Shell-No-Beaufort-Sea-apf-844337881.html?x=0>.

4. Dan Joling, "AP Interview: Shell President Optimistic on Arctic," Associated Press, June 29, 2011, <http://www.google.com/hostednews/ap/article/ALeqM5hpFXufn1XRRmcVw4DjCP9anqgLTA?docId=934e94350644444bb63b90a8b618cb0c>.

The Northstar Island is an artificial island in the Beaufort Sea, 12 miles northwest of Prudhoe Bay, Alaska, used for developing the Northstar Oil Pool.



Source: Wikimedia Commons.

3.4 million barrels per day in 2001⁵ and is expected to decline further if no significant new fields are discovered. Increased demand from the European market has spurred additional exploratory drilling farther north. Seismic activity by the Norwegian Petroleum Directorate⁶ has already started in the maritime territory obtained after the Norwegian-Russian maritime delimitation treaty entered into effect in July 2011.⁷ With the largest exclusive economic zone (EEZ) and Arctic coast line, Russia is increasingly interested in developing its potential fields, especially on the prosperous continental shelf next to the Novaya Zemlya archipelago and in the Kara Sea. Russia is moving to increase gas production in the vast Yamal field, which already produces 90 percent of Russian state gas, following recent discoveries of large gas fields, such as the Bovanenkovo field.⁸ In addition, Russia has been active in expanding oil production in the Pechora Sea, with plans for drilling in

5. Mikael Höök and Kjell Alekset, “A Decline Rate Study of Norwegian Oil Production,” *Energy Policy* 36, no. 11 (November 2008): 4262–71, <http://www.tsl.uu.se/uhdsg/publications/DeclineRateStudyNorway.pdf>.

6. Norwegian Petroleum Directorate, “Seismic Activity in the Barents Sea East from 7 July,” June 9, 2011, <http://www.npd.no/en/news/News/2011/Seismic-activity-in-the-Barents-Sea-East-from-8-July/>.

7. Atle Staalesen, “Barents Border Treaty in Force Now,” *BarentsObserver*, July 7, 2011, <http://www.barentsobserver.com/barents-border-treaty-in-force-now.4940796-116320.html>.

8. Amie Ferris-Rotman, “Russian Arctic Tribe at Risk from Yamal Gas Projects,” Reuters, October 6, 2009, <http://www.reuters.com/article/2009/10/06/us-russia-yamal-nenets-idUSTRE5953ZB20091006>.

the Prirazlomnoye oil field in early 2012⁹—a significant development as it marks the first instance of offshore drilling in the Russian Arctic.¹⁰ Russia also plans to drill in the Dolginskoye oil field in the Pechora Sea, which is projected to be three times as large as the Prirazlomnoye, and aims to have the field developed by 2020.¹¹ Numerous delays—from the large supply of gas available on the global market due to the discovery of unconventional gas in the United States and uncertainty over Russian taxation policies—have to this point prevented the development of the world’s largest gas field, the Shtokman field in the Barents Sea, forcing new technological developments and seismic exploration in other parts of the Russian Arctic territory. All of this activity indicates the keen interest both countries have in moving rapidly to extract these resources from their Arctic territories.

Greenland, which some presume to hold the largest undiscovered amounts of oil and gas in the Arctic, is also eager to locate and extract its Arctic resources. The country is currently awaiting several oil and gas findings of commercial value. Thus far, the Scottish oil company Cairn Energy has drilled three exploratory wells along the Greenland coast but has not found commercially viable oil resources, with gas discoveries being predominant, and has ended its exploratory drilling.¹² Canada is also expected to increase exploratory drillings and the sale of new leases in the Eastern Basin, near Greenland, which is predicted to have significant commercial value. International companies are currently holding off bids until final regulations are published by the Canadian Arctic Offshore Drilling Review Board. These regulations were released in December 2011.¹³

Mineral Resources

In addition to hydrocarbon deposits, the Arctic is also home to nickel, iron ore, and other rare earth minerals. Although the full extent of these resources is not yet known, each of the different Arctic states has made efforts to cultivate these resources.

As of 2006, Russia had 25 mines operating in the Arctic, the majority producing nickel and copper, in addition to significant amounts of tin, uranium, and phosphate.¹⁴ The Norilsk Nickel Plant is the largest mine in the Russian Arctic and produces nearly one-fifth of the world’s nickel and almost half of global palladium.¹⁵ Norilsk shipped 10,000 metric tons of metal and coal to Asian countries in 2010, and the company plans to spend \$370 million to double its shipments across the Arctic Ocean by 2016.¹⁶ In addition, the Kola Peninsula in northwest Russia is

9. Trude Pettersen, “GazpromNefit to Operate Prirazlomnoye Field,” *BarentsObserver*, October 31, 2011, <http://barentsobserver.custompublish.com/index.php?id=4978924&xxforcedir=1&noredir=1>.

10. Atle Staalesen, “Prirazlomnoye Drilling in September,” *BarentsObserver*, July 4, 2011, <http://www.barentsobserver.com/prirazlomnoye-drilling-in-september.4940008-16149.html>.

11. Atle Staalesen, “Dolginskoye Development before 2020,” *BarentsObserver*, September 7, 2011, <http://barentsobserver.custompublish.com/index.php?id=4956859&xxforcedir=1&noredir=1>.

12. Zoe Wood, “Cairn Energy Announces Greenland Oil Find,” *Guardian*, September 21, 2010, <http://www.guardian.co.uk/business/2010/sep/21/cairn-energy-oil-find-greenland>.

13. National Energy Board of Canada, *Filing Requirements for Offshore Drilling in the Canadian Arctic* (Calgary: National Energy Board, December 2011), <http://www.neb-one.gc.ca/clf-nsi/rthnb/pplctnsbfrthnb/rctcfffshrdrlngvrw/rctcrvwflngrqrmnt/rctcrvwflngrqmnt-eng.pdf>.

14. Noreen Parks, “Natural Resources: Other Minerals,” Russian Geographical Society, Friends of the Arctic website, <http://www.arctic.ru/natural-resources/other-minerals>.

15. *Ibid.*

16. Ilya Khrennikov, “Russia’s Norilsk Plans to Invest \$370 Million to Double Arctic Shipments,” Bloomberg, June 28, 2011, <http://byers.typepad.com/arctic/2011/06/russias-norilsk-plans-to-invest-370-mil->

extremely rich in various ores and minerals, including apatite, alumina, iron ore, mica, titanium, phlogopite, and vermiculite.¹⁷

While Norway has focused primarily on oil and gas resources rather than on mining for minerals, it has made efforts in recent years to redevelop old sites to excavate for raw materials. The Sydvaranger iron ore mine is one such example; shut down in 1996, it reopened in 2009 and ships the ore to continental Europe.¹⁸ Although the extent of rare minerals in the Norwegian Arctic is largely unknown, preliminary studies highlight the possible existence of large quantities of commercially exploitable rare minerals.

Canada has been exploring the extraction of valuable metals used in the production of steel from Baffinland. These operations are complicated, however, by the harsh conditions in the territory, such as the thick permafrost and 24-hour winter darkness. Nevertheless, the private sector has been active in the Canadian Arctic, with steelmaker ArcelorMittal joining with Nunavut Iron Ore Acquisition to jointly acquire Baffinland Iron Mines for \$593 million in January 2009. Aker Arctic Technology projects that 18 million tons of iron ore per year will be shipped from North Baffin's high-grade Mary River deposits and that the Baffinland Iron Mine will be in operation for at least 25 years.¹⁹

For the United States, Alaska's industrial-scale mining consists of one coal mine and one open-pit lead-zinc mine—the Red Dog. The Red Dog mine is the world's leading source of zinc and also produces significant amounts of lead. The mine produces 10 percent of the world's zinc and in 2008 accounted for 55 percent of the mineral value produced in Alaska.²⁰

Although Greenland has not yet conducted significant amounts of mining for minerals, this is likely to change as the Greenland ice sheet continues to shrink and accessibility increases. Limited mining of cryolite, coal, marble, zinc, lead, and silver has taken place in the past, and the country is looking to mine diamonds, gold, niobium, tantalite, uranium, and iron in the future. A 2010 discovery of large uranium deposits on the country's southwest coast has increased hopes that Greenland will yield significant additional mineral resources.²¹ In fact, preliminary studies have shown that Kvanefjeld contains “one of the world's largest deposits of the so-called rare earth metals, used in green technology,” in addition to high amounts of uranium and zinc.²²

lion-to-double-arctic-shipments.html.

17. Geoff Glasby and Yuri Voytekhovskiy, “Arctic Russia: Minerals and Mineral Resources,” *Geochemical Society, Russian Academy of Sciences website*, <http://www.geochemsoc.org/publications/geochemical-news/gn140jul09/arcticrussiamineralsandmin.htm>.

18. Sydvaranger Gruve AS, “Sydvaranger gjennom 100 år” [Sydvaranger through 100 years], December 15, 2009, <http://www.sydvarangergruve.no/historie.147312.no.html>.

19. David Tinsley, “Arctic Gold Rush Drives Evolution of Ice Vessels,” *Lloyd's List*, January 22, 2009, <http://byers.typepad.com/arctic/2009/01/arctic-gold-rush-drives-evolution-of-ice-vessels.html>.

20. David J. Szumigala, Richard A. Hughes, and Lisa A. Harbo, *Alaska Mineral Industry 2008: A Summary* (Fairbanks: Alaska Department of Natural Resources, Division of Geological and Geophysical Surveys, 2009), http://www.commerce.state.ak.us/ded/dev/minerals/pub/InfoCirc_058Final.pdf.

21. “Greenland Minerals and Energy Drilling Unveils New Rare Earths and Uranium Discovery,” *Proactive Investors*, February 17, 2011, <http://www.proactiveinvestors.com.au/companies/news/14025/greenland-minerals-and-energy-drilling-unveils-new-rare-earths-and-uranium-discovery-14025.html>.

22. “Greenland Opens Door to Uranium Exploration,” *Nunatsiaq News*, September 10, 2010, http://www.nunatsiaqonline.ca/stories/article/1009102-greenland_opens_the_door_to_uranium_mining_exploration.

Fisheries

In addition to large deposits of Arctic oil, gas, and other natural minerals, the Arctic Ocean is connected to several significant breeding areas of fish stocks, which are anticipated to move farther north as an apparent result of changes in Arctic water temperatures. The National Oceanic and Atmospheric Administration has stated that this shift has been going on for the past 40 years, with some stocks nearly disappearing from U.S. waters as the fish “seem to be adapting to changing temperatures and finding places where their chances of survival are greater.”²³ In fear of uncontrolled new developments, the North Pacific Fishery Management Council decided in 2009 to ban all commercial fishing in a 200,000-square-mile Arctic area, from the Bering Strait to the disputed U.S.-Canadian maritime border. As a reshifting of fish stocks takes place, increased fishing opportunities are likely to result in disputes over quotas and fishing areas. The U.S. Coast Guard (USCG) is already patrolling the Bering Sea border with Russia, which has been the source of some tension because of overfishing and boundary disputes. Norwegian and Russian cooperation on fishing in the Barents Sea has generally been promoted as a positive example of border cooperation, but incidents between the Norwegian Coast Guard and Russian trawlers have occurred from time to time, such as the arrest of the Russian trawler *Sapphire II* for illegal dumping of fish in waters around Svalbard in late September 2011. While the company owning the trawler was given a €57,000 fine, both Russian Foreign Minister Sergey Lavrov and Norwegian Foreign Minister Jonas Gahr Støre moved quickly to diffuse the issue and stress that there was “no conflict” between the countries regarding fisheries.²⁴

With increased fishing activity in the Arctic, such issues are again likely to develop. At the same time, increased activity demands increased capacity from the national coast guards, as a large part of search-and-rescue activity revolves around fishing vessels.

The polar night, when night lasts for more than 24 hours, occurs only inside the polar circles in locations such as Longyearbyen, Svalbard.



Source: Wikimedia Commons. Photo by Bjørn Christian Tørrissen.

23. United Press International, “Ocean Warming Affecting Fish Populations,” November 3, 2009, http://www.upi.com/Science_News/2009/11/03/Ocean-warming-affecting-fish-populations/UPI-17961257275663/.

24. Thomas Nilsen, “No Conflict on Svalbard Fisheries,” *BarentsObserver*, October 13, 2011, <http://www.barentsobserver.com/no-conflict-on-svalbard-fisheries.4971611.html>.

Destination and Transshipping

Just as international energy companies and fisheries have growing interests in the Arctic, so too has the international shipping industry. Transport shipping in the Arctic has substantially increased. In the summer months of 2011, the Russian nuclear icebreaker fleet escorted 15 large commercial oil and bulk tankers through the Northern Sea Route. This number is projected to grow every year as the ice-free period during the summer is expected to increase.²⁵ In December 2011, Vyacheslav Ruksha, the head of the nuclear icebreaker fleet operator Rosatomflot, stated his expectation that cargo transport on the Northern Sea Route would increase to over 1 million tons in 2012.²⁶ This prediction anticipates a further increase in traffic along the route, which saw 34 vessels transport 820,000 tons of cargo in 2011—a drastic increase from the four vessels that transported 111,000 tons of cargo in 2010.²⁷ If the Northern Sea Route becomes viable to additional future transport routes, transit time from Asia to Europe and North America could potentially be reduced by a third compared to passage through the Suez Canal. This possibility has sparked strong interest in the future Asian beneficiaries of this new shipping lane, particularly China, Japan, and South Korea.

Tourism

Arctic ecotourism is another, but no less significant, factor that will play an increasingly important role in the economics of the Arctic region. In recent years, the number of tourists traveling on large cruise ships has increased dramatically throughout the Arctic region.²⁸ The U.S. Coast Guard reports that activity through the Bering Strait has increased from 245 ships in 2008 to 325 in 2010, and the increase is expected to continue.²⁹ In August 2010, the Canadian Coast Guard ferried passengers to a small town on the shore of the Arctic Ocean when their cruise ship, the *Clipper Adventurer*, ran aground on an unmapped rock in the waters of western Nunavut.³⁰ This “best-case scenario” (none of the 128 passengers was hurt, and the accident took place during the relatively ice-free summer months) provided an important reminder of the international community’s woeful lack of preparation to provide emergency response in a “worst case” scenario. Would the Canadian Coast Guard have been able to respond in time to save the passengers had the ship begun to sink? If the ship had run aground in international waters, who would have responded, as the Canadian Coast Guard is headquartered in the south and would have taken significant time to arrive on location? Consequently, Denmark has proposed that cruise ships coordinate their navi-

25. Thomas Nilsen, “Season’s First Oil-Tanker sails Northern Sea Route,” *BarentsObserver*, June 30, 2011, <http://www.barentsobserver.com/seasons-first-oil-tanker-sails-northern-sea-route.4939088-116320.html>.

26. Trude Pettersen, “Rosatomflot Is ready for More Cargo on Northern Sea Route,” *BarentsObserver*, December 14, 2011, <http://www.barentsobserver.com/rosatomflot-is-ready-for-more-cargo-on-northern-sea-route.4998361-116320.html>.

27. *Ibid.*

28. Statistisk Sentralbyrå, “Turisme—Stadig flere vil oppleve Arktis” [Tourism—More and more will experience the Arctic], October 2009, http://www.ssb.no/dette_er_svalbard/turisme.pdf.

29. U.S. Coast Guard, “USCG D17 Arctic Brief,” January 27, 2011, <http://www.uscg.mil/d17/Arctic%20Overview%20Feb2011.pdf>.

30. Toby Cohen, “Canadian Rescue Capacity Questioned in Wake of Arctic Ship Grounding,” *Postmedia News*, August 29, 2010, <http://www.canada.com/news/Canadian+rescue+capacity+questioned+wake+Arctic+ship+grounding/3457291/story.html>.

gations with emergency services, and each other, to be ready to assist if a maritime incident occurs far away from ports and operational headquarters.³¹

Border Protection and the Projection of Sovereignty

While the melting polar ice cap offers new economic opportunities for the Arctic coastal states, it also has major implications for border and maritime protection and for enforcement of state sovereignty. In fact, there have already been efforts to increase border security, particularly by Norway and Russia. By the end of 2011, Russia had plans to establish a brigade specifically equipped and prepared for military warfare in Arctic conditions. The 200 motorized infantry brigade in Pechenga, some 10 kilometers (6.2 miles) from the Russian-Norwegian border, is the first such unit.³² In addition, according to the chief of staff of the Russian Airborne Troops, Lieutenant General Nikolay Ignatov, the Russian military is considering the deployment of paratroopers from the Arctic Spetsnaz brigade.³³

Researchers from the NASA-funded ICESCAPE mission examine melt ponds and the ice around them north of the Arctic Circle.



Source: Wikimedia Commons. Photo by NASA Goddard Space Flight Center.

31. Danish Ministry of Foreign Affairs, *Denmark, Greenland and the Faroe Islands: Kingdom of Denmark Strategy for the Arctic 2011–2020* (Copenhagen: Ministry of Foreign Affairs, Denmark; Department of Foreign Affairs, Greenland; Ministry of Foreign Affairs, Government of the Faroes, 2011), 18, <http://uk.nanoq.gl/~media/29cf0c2543b344ed901646a228c5bee8.ashx>.

32. Trude Pettersen, “Russia’s Arctic Force May Include Paratroopers,” *BarentsObserver*, August 11, 2011, <http://www.barentsobserver.com/russias-arctic-force-may-include-paratroopers.4947261-116320.html>.

33. *Ibid.*

The Norwegian government has also been active in expanding its military capabilities in the region. Norway has constructed Aegis-capable frigates, modernized its air force through the purchase of new F-35 fighter aircraft, and relocated its armed forces' Joint Operational Headquarters and army staff farther north, just above the Arctic Circle to Reitan, outside of Bodø, Norway.³⁴ A major motivation for these moves is the Norwegian desire to ensure robust border security and readiness while maintaining a collaborative relationship with Russian border security services.

The need to assert sovereignty and protect borders has not prevented Arctic coastal states from working to resolve long-standing border disputes, however. In fact, there is newfound motivation for resolving these disputes among the Arctic coastal states, since resolution can produce commercial and strategic value. The signing in September 2010 and ratification in June 2011 of the Norwegian-Russian Delimitation Treaty is an example of the resolution of a 40-year dispute that allowed for immediate seismic study and potential oil and gas exploration by both Norway and Russia. Nevertheless, not all Arctic border disputes have been resolved. The United States currently has a dispute with Canada over territory in the Beaufort Sea and the status of the Northwest Passage, and the Russian Duma has yet to ratify the Bering Sea Maritime Boundary Agreement from 1990 with the United States.³⁵

The signing of the Russian-Norwegian Treaty on Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean, September 15, 2011.



Source: www.kremlin.ru.

Despite Norway and Russia's resolution of a major border dispute in the Arctic, several disputed claims over extensions of the national continental shelves through the United Nations Convention on the Law of the Sea (UNCLOS) still remain, particularly the Lomonosov Ridge, an

34. Trude Pettersen, "Operations Center Opened at NATO's First HQ above Arctic Circle," *BarentsObserver*, November 10, 2010, <http://www.barentsobserver.com/operations-center-opened-at-natos-first-hq-above-arctic-circle.4841282-116320.html>.

35. U.S. Central Intelligence Agency, "United States," in *The World Factbook, 2011* (Washington, D.C.: CIA), <https://www.cia.gov/library/publications/the-world-factbook/geos/us.html#Issues>.

underwater mountain chain crossing through the geographic North Pole. Proving the rights to the Lomonosov Ridge has been identified as one of Russia's top strategic priorities, because it would grant exclusive access to potentially vast stores of oil and natural gas and increase Russia's EEZ by 1.2 million square kilometers. The Russian Federation has laid claim to the ridge on the basis that rock samples match the soil of the Siberian coast. Russian divers even went so far as to plant a Russian flag underwater during their exploratory mission.³⁶ In addition, Russia has extended its sea-bed mining efforts and has had an application approved by the International Seabed Authority to conduct further mining in the Atlantic.³⁷ Canada, Denmark, and Norway have also submitted claims that the Lomonosov Ridge is an extension of each country's sovereign territory.

Claims of extended continental shelves that could reach the North Pole are issues highly relevant to the Arctic security environment. After its initial continental shelf submission to UNCLOS was rejected in 2002 because of insufficient evidence, Russia has been the most assertive in its claims for extending its continental shelf and, subsequently, its access to natural resources. The top-secret findings of Russia's "Shelf-2010," a three-month expedition in which 100 scientists were tasked with gathering data to support Russia's claim to the Lomonosov Ridge, have emboldened Russia to announce publicly its "confidence" in its next application, which it intends to submit to the United Nations Commission on the Limits of the Continental Shelf in 2012.³⁸ Some concern has been expressed that if Russia is unsuccessful at the United Nations (UN), the Russian Duma could unilaterally approve national legislation claiming the Lomonosov Ridge as its extended continental shelf.³⁹ Individuals such as Viktor Posyolov of the Russian Institute of Ocean Geology have downplayed the idea of unilateral annexation by Russia as "impossible,"⁴⁰ and fears have decreased as the Russian leadership has focused on negotiated solutions to territorial disputes in the region. Nevertheless, should Moscow pursue this territory by force, the only recourse of the coastal states with competing claims would be to take matters before the International Court of Justice for resolution. Both Canada and Denmark are expected to put in claims of their own for the ridge in 2013⁴¹ and 2014,⁴² respectively.

A New and Fraught Operating Environment

While Arctic economics, border protection, and the projection of sovereignty are significant drivers in the future of the Arctic, they do not overshadow a third major factor that will shape the

36. Richard A. Lovett, "Russia's Arctic Claim Backed by Rocks, Officials Say," *National Geographic News*, September 21, 2007, <http://news.nationalgeographic.com/news/2007/09/070921-arctic-russia.html>.

37. International Seabed Authority, "Seabed Council Approves Four Applications for Exploratory Contracts with Authority in Deep Seabed Area," news release, July 19, 2011, <http://www.isa.org.jm/files/documents/EN/Press/Press11/SB-17-11.pdf>.

38. Atle Staalesen, "Russian Shelf Claim to UN in 2012," *BarentsObserver*, July 6, 2011, <http://www.barentsobserver.com/russian-shelf-claim-to-un-in-2012.4940700.html>.

39. Dmitry Gorenburg, "Russia's Arctic Security Strategy," blog, Russian Military Reform, May 12, 2011, <http://russiamil.wordpress.com/2011/05/12/russia%E2%80%99s-arctic-security-strategy/>.

40. Adrian Blomfield, "Russia Claims North Pole with Arctic Flag Stunt," *Telegraph*, August 1, 2007, <http://www.telegraph.co.uk/news/worldnews/1559165/Russia-claims-North-Pole-with-Arctic-flag-stunt.html>.

41. Thomas Grove, "Russia to Submit Arctic Claim to U.N. Next Year," Reuters, July 6, 2011, <http://www.reuters.com/article/2011/07/06/us-russia-arctic-claim-idUSTRE76528320110706>.

42. John Acher, "Denmark Says Preparing North Pole Claim," Reuters, August 22, 2011, <http://af.reuters.com/article/commoditiesNews/idAFL5E7JM1YX20110822>.

region's future security architecture: the region's extreme climatic operating conditions and lack of satellite communication. The near absence of satellite coverage is coupled with a vacillation of the sea ice, limited hydrographic mapping, difficulties of ice forecasting, and the mobility constraints of ice-strengthened equipment. A coherent surveillance of ice thickness does not currently exist, a critical factor when operating tankers, oil platforms, and cruise ships in the Arctic. The extreme Arctic temperatures have the potential to influence any operation and require specific training. In addition, magnetic and solar phenomena limit communications equipment above 70 degrees north. According to the U.S. Department of Defense, "Although adequate for single ships, the communications architecture is insufficient to support normal operational practices of a surface action group or any large-scale Joint Force operations."⁴³ There are also issues with the use of satellites and the global positioning system (GPS), making it difficult to perform missions with the precision needed for weapons targeting or search and rescue.⁴⁴ The Russian global navigational satellite system, GLONASS, however, is able to provide some coverage. By orbiting at a 64.8 degree inclination rather than at 55 degrees, as does the GPS, GLONASS is able to provide better coverage in high latitudes and in the Arctic.⁴⁵ As a result, GLONASS may well become the only option for providing means of communication in the Arctic.⁴⁶ Regardless, issues related to actual presence in the region are currently not addressed in any overarching framework to reduce security risks and improve abilities to operate in the region. As activity in the region increases, dealing with these factors will become essential for safety and security.

43. U.S. Department of Defense, *Report to Congress on Arctic Operations and the Northwest Passage* (Washington, D.C.: Department of Defense, May 2011), http://www.defense.gov/pubs/pdfs/Tab_A_Arctic_Report_Public.pdf.

44. *Ibid.*

45. Grace Xingxin Gao, Liang Heng, Todd Walter, and Per Enge, "Breaking the Ice: Navigation in the Arctic," *Inside GNSS* (September–October 2011), <http://www.insidegnss.com/node/2748>.

46. Sanskar Shrivastava, "Russian GLONASS an Answer to American GPS?" *World Reporter*, April 21, 2011, <http://www.theworldreporter.com/2011/04/russian-glonass-answer-to-american-gps.html>.

3

AN ABUNDANCE OF GOVERNANCE, A SCARCITY OF CAPABILITIES

With increased oil and gas exploration, mineral extraction, intra-Arctic shipping, tourism, commercial fishing, and additional borders to protect, the region faces a daunting array of new security challenges. These will require coordination, collaboration, and interoperability among and between the Arctic nations. Oil-spill prevention, preparedness and response and enhanced search-and-rescue capabilities will require training, equipment, and cooperation with civilian agencies. Neither current capabilities nor existing frameworks are sufficiently developed to deal with this increase in Arctic activity. With a very limited capacity to house an influx of cruise ship passengers in sparsely populated northern Alaskan cities (e.g., Deadhorse, Alaska, has a population of 47 people and a 36-room inn)¹ and no developed infrastructure (other than rusted air hangers built in the 1950s as part of the Cold War Distant Early Warning Line) for increased Coast Guard presence, these activities challenge the concept of Arctic security from a U.S. perspective.

When states are confronted with emerging challenges, they either turn to existing international organizations and governing norms or create new organizational structures to respond. Initially, some non-Arctic actors argued that the Arctic lacked sufficient governance structures,² and suggestions were made to develop a new framework, a so-called Arctic treaty, which would be similar to the Treaty of the Antarctic. This treaty entered into force in 1961 and made Antarctica a scientific preserve in which signatories had full freedom for scientific investigation. The treaty states “that it is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord.”³ The treaty also included a ban on all military operations in the region, making it the first arms control agreement of the Cold War when it was signed by Norway, Russia, the United States, and nine other countries. Since that time, the number of signatories has swelled to 49, and additional agreements, particularly regarding environmental and animal protection, have been added to the original language.⁴

In spite of the success of the Treaty of the Antarctic, the Arctic coastal states were resoundingly opposed to a new treaty, arguing that the Arctic, as an ocean surrounded by land, was well

1. Caroline Graham, “Deadhorse, Alaska—the Town at the End of the Earth,” *Daily Mail*, August 13, 2006, <http://www.dailymail.co.uk/femail/article-400276/Deadhorse-Alaska--town-end-earth-making-global-oil-markets-tremble.html>.

2. European Parliament website, “European Parliament Resolution of 9th of October 2008 on Arctic Governance,” October 9, 2008, <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P6-TA-2008-0474>.

3. U.S. Department of State website, “Text of the Antarctic Treaty, 1959,” http://www.state.gov/www/global/oes/oceans/antarctic_treaty_1959.html.

4. Secretariat of the Antarctic Treaty website, http://www.ats.aq/index_e.htm.

governed by existing international law, the United Nations Convention on the Law of the Sea (UNCLOS).⁵ To place additional emphasis to their point, the five Arctic coastal states met in Ilulissat, Greenland, on May 27, 2008, to discuss the growing importance of the region and referred to UNCLOS as an “extensive international legal framework,” indicating that the members saw “no need to develop a new comprehensive international legal regime to govern the Arctic Ocean.”⁶ At that time, the Russian Federation proclaimed its desire to keep Arctic discussions among the Arctic coastal states,⁷ the Arctic Five, and reinforced the desire for Arctic governance by these sovereign countries rather than a larger regime. Simply put, the coastal states did not believe there was a “governance problem” that needed to be solved in the Arctic; if anything, the opposite is the case. There is an abundance of governance in support of the Arctic.

UNCLOS⁸ is the primary international legal framework for the Arctic. Although it provides a common framework for managing international waters, including maritime boundary disputes and territorial claims, it is unable to serve as a forum for addressing security concerns related to increased commercial activity and military presence, despite the fact that addressing territorial and boundary disputes is a vital element of conflict prevention.

The primary institutional framework for the Arctic is the Arctic Council. Created in 1996, the council is the most prominent and visible Arctic institutional actor with a primary function of international cooperation in environmental protection and sustainable development. A milestone of sorts was achieved on May 12, 2011, with the signing of a legally binding international agreement by the eight member states of the Arctic Council, which consists of the five Arctic coastal states (Canada, Denmark, Norway, Russia, and the United States) plus Finland, Iceland, and Sweden. This much-heralded agreement was an attempt to address one of the most daunting aspects of Arctic security that requires strong regional and military cooperation: search and rescue. Although the Arctic Council was the preferred framework for the negotiation of the international search-and-rescue agreement, it was not an Arctic Council agreement. Article 8 of the agreement specifies that a request from a state for permission to enter the search-and-rescue area of another state shall be immediately responded to.⁹ The signatories are also obliged to “promote mutual search and rescue cooperation by giving due consideration to collaborative efforts.”¹⁰ Unfortunately, as declared in its founding document, the September 19, 1996, Ottawa Declaration on the Establishment of the Arctic Council, and at the insistence of the United States, the Arctic Council is not permitted to discuss issues related to security. Like UNCLOS, the Arctic Council is also unable to address any security-related issue because of its charter provisions.¹¹

5. Arctic Ocean Conference, “The Ilulissat Declaration,” May 28, 2008, http://www.oceanlaw.org/downloads/arctic/Ilulissat_Declaration.pdf.

6. Arctic Economics, “The Ilulissat Declaration,” May 28, 2008, http://benmuse.typepad.com/arctic_economics/2008/05/the-ilulissak-declaration.html.

7. “EU-Russia Summit to Focus on ‘Hard Security,’” *EurActiv.com*, May 14, 2009, <http://www.euractiv.com/en/priorities/eu-russia-summit-focus-hard-security/article-182320>.

8. UN Convention on the Law of the Sea of December 20, 1982, “Overview and Full Text,” http://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm.

9. Arctic Council website, “Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic,” April 2011, http://library.arcticportal.org/1474/1/Arctic_SAR_Agreement_EN_FINAL_for_signature_21-Apr-2011.pdf.

10. *Ibid.*

11. For more analysis of the Arctic Council, see section entitled “The Role of the Arctic Council.”

A third institutional and governing framework is the International Maritime Organization (IMO). An agency of the United Nations, the IMO is tasked with ensuring the safety and security of shipping and the prevention of marine pollution by ships. The IMO was created in 1948 as the Inter-Governmental Maritime Consultative Organization at an international conference in Geneva in an effort to promote maritime safety; the name was changed in 1982.¹² The IMO has 170 member states and includes all the Arctic states.

The IMO has been active in a variety of areas, namely, in maintaining the Safety of Life at Sea Convention, regulating CO₂ emissions, regulating international ship and port facility security codes, and adopting the International Convention on Oil Pollution Preparedness, Response and Co-operation. Following the Exxon Valdez oil spill in 1989, the IMO began to work on a code for shipping in polar waters and created the IMO guidelines for ships operating in Arctic ice-covered waters. While creating these guidelines was a step forward, they are nonbinding and often vague. Efforts are currently under way to improve on these guidelines and turn them into a mandatory polar code by 2013.¹³ It remains to be seen whether the different Arctic states can come to agreement on the terms of a binding regulation on Arctic operations. While successful implementation of such a regime would strengthen the role of the IMO as a key player in the Arctic, the institution suffers from the same weakness as the Arctic Council. Because the IMO requires unanimous agreement to make a decision, it tends to pass nonbinding recommendations. A perfect example is the IMO's Polar Code. Taking over a decade to negotiate and agreed to in 2009, the code provides voluntary shipping guidelines and regulations for ships traversing polar waters, particularly focusing on ship construction and the designation of a system of polar classes that delineates polar ship capabilities.¹⁴ Unfortunately, members did not agree that the Polar Code should be legally binding, a decision that has limited the reach and impact of the guidelines.

A review of each of these institutions and international frameworks reveals one key common thread: none is perfectly designed to address the security issues emerging in the Arctic. Without a framework that encompasses all relevant state actors and is recognized by each party, effectively confronting these challenges is impossible. The international community has already received early indications that a significant Arctic incident is on the horizon. The grounding of the Canadian ship in Canada called into question the adequacy of existing nautical maps, which are increasingly difficult to maintain, given the speed with which new shipping lanes become available as the polar ice melts. The event also called into question Canada's ability to respond quickly enough should a more severe disaster take place in the High North.¹⁵ In August 2011, Canada had to suspend Operation Nanook, its annual Arctic military exercise, to assist in the recovery of a Boeing 737, which had crashed in a proximate location. The military was able to reach the three survivors in a

12. International Maritime Organization website, "Introduction to IMO," <http://www.imo.org/About/Pages/Default.aspx>.

13. Antarctic and Southern Ocean Coalition, "Developing a Mandatory Polar Code—Progress and Gaps" (paper presented at the 34th Antarctic Treaty Consultative Meeting, Buenos Aires, July 1, 2011), http://asoc.org/storage/documents/Meetings/ATCM/XXXIV/Developing_a_Mandatory_Polar_Code_Progress_and_Gaps.pdf.

14. IMO, "Protecting the Polar Regions from Shipping, Protecting Ships in Polar Waters," <http://www.imo.org/MEDIACENTRE/HOTTOPICS/POLAR/Pages/default.aspx>.

15. Tobi Cohen, "Canadian Rescue Capacity Questioned in Wake of Arctic Ship Grounding," *Canada.com*, August 29, 2010, <http://www.canada.com/news/Canadian+rescue+capacity+questioned+wake+Arctic+ship+grounding/3457291/story.html>.

timely fashion because it was already in the area for the training exercise.¹⁶ The Shell North Sea oil spill, also in August 2011, showcased the hazards of operating in the harsh conditions of the High North. Approximately 1,300 barrels of oil were released from the Shell Gannet Alpha oil platform, which operates 110 miles east of Aberdeen, Scotland. This accident constitutes the worst oil leak for the United Kingdom in a decade, and the fact that it took 10 days for divers to reach the relief valve to stop the leak is evidence of the added difficulties of operating in the harsh environment of the Arctic.¹⁷ These incidents illustrate the need for strong international coordination and capabilities in the Arctic region, an objective that cannot be reached within the weak existing frameworks now available.

16. CBC News, "Military Prepared during Resolute Crash, Operation Nanook," October 3, 2011, <http://www.cbc.ca/news/canada/north/story/2011/10/03/nunavut-nanook-crash-review.html>.

17. Fiona Harvey, "Shell Stops North Sea Leak after 10 Days," *Guardian*, August 19, 2011, <http://www.guardian.co.uk/environment/2011/aug/19/shell-stops-second-oil-leak?INTCMP=ILCNETTXT3487>.

4

A U.S. SECURITY STRATEGY FOR THE ARCTIC

The Arctic's economic dynamism and its potential for catastrophic events reinforce the need for coastal states to develop a coherent and functional security framework that maximizes coordination and transparency while also limiting the negative consequence of scarce capabilities and economic competition. The United States has an urgent need to develop an Arctic security strategy based on strong international cooperation, public-private partnership, and U.S. leadership.

U.S. Arctic territory, defined as the region above the Arctic Circle (66 degrees north), comprises the northern parts of Alaska and parts of the Beaufort and Chukchi Seas. Compared to the other Arctic coastal states, the U.S. Arctic is both smaller geographically and less populated than its counterparts. The largest communities in Alaska's Far North each have approximately 3,000 to 4,000 inhabitants, mostly

in the towns of Kotzebue and Barrow.¹ In comparison, the largest Russian Arctic community is the city of Murmansk, located close to the Norwegian border, with approximately 325,000 inhabitants. Of the 4 million people living in the wider definition of the Arctic,² most are located in Norwegian or Russian territories. As a natural consequence, U.S. strategic vision, focus, and engagement in the Arctic have been insufficient and have not matched those of the other Arctic nations.

Deadhorse Alaska aerial view



Source: Wikimedia Commons. Photo by U.S. Navy.

Whereas the Arctic has been extensively used in history to build national identity in Canada and Russia, the Arctic has not been used to the same extent to define U.S. self-perception and identity. If anything, World

1. The State of Alaska website, "Population and Size," http://www.commerce.state.ak.us/ded/dev/student_info/learn/population.htm.

2. Drawing the line farther south to include Iceland, the whole of Alaska, and larger parts of Canada, Finland, Norway, Russia, and Sweden.

War II and the Cold War were the defining historical frameworks for U.S. engagement in the Arctic. During World War II, the United States needed to create supply routes by air and by sea to resupply the Soviet front through the port of Murmansk and to fend off any possible Japanese invasion of Alaska, which justified the construction of a portion of the Alaskan highway system. At the height of the Cold War, the proximity of U.S. Arctic territory to the Soviet Union was the impetus for creating a continental defense and deterrence system, the Distant Early Warning, or DEW, Line. An initiative of President Eisenhower's "New Look" Policy signed in 1954, the DEW Line was a national imperative that created a comprehensive warning and control system against air attack that stretched from Alaska to Greenland and included a string of continental defense radars. Roughly 25,000 people had a direct hand in building the DEW Line, with more than 3,000 soldiers from the Army Transportation Corps given special training to prepare for the job of unloading ships in the Arctic.³ Much of the U.S. security infrastructure that remains in the region was constructed in the 1950s and 1960s.

But, in the absence of the Cold War's existential threat, U.S. Arctic territory occupies only a small portion of the Arctic region as a whole and is far from the political and economic centers of the country, despite the fact that Alaska serves the natural resource needs of and military interests of the United States. Not surprisingly, following the collapse of the Soviet Union, the Arctic lost most of its strategic military purpose and U.S. foreign policy interest, with the exceptions of the global missile defense architecture based at Fort Greeley and the U.S. government's ongoing scientific research work. The U.S. security approach toward the Arctic has largely been to outsource requirements to foreign-flagged commercial vessels or to borrow ice-strengthened vessels from Canada, Russia, or Sweden. For many senior U.S. homeland security officials, the concept of border security relates to overall U.S. counterterrorism efforts, its southern border with Mexico, and drug and human interdiction, while the most northern borders of the United States receive much less attention. As the U.S. defense and homeland security budget falls under increased scrutiny, increased spending for regions that do not pose an immediate threat seem unlikely.⁴ Unable to make difficult future budget decisions in a constrained budget environment, Washington reverts to a near-constant assessment process of U.S. infrastructure and security needs in the Arctic (such as the upcoming FY2014 Navy Arctic Capabilities Based Assessment), suggesting that an endless assessment process is equivalent to taking decisions on a future course of action.

In stark contrast, Canadian, Norwegian, and Russian foreign policies have declared the Arctic a main strategic area of interest and have placed budgetary resources behind their lofty development plans. Russia has clearly made the Arctic a priority in documents such as the *National Security Strategy of the Russian Federation until 2020* and has backed these goals with thorough investment in icebreakers and submarines. Russia has also created incentives to encourage development in Arctic territories, in spite of the harsh climate. Both in Teriberka and in Yamal, the Russian government has created tax-exemption rules to promote the continued development that will assist in extracting nearby oil and gas.⁵ Russia has also recently announced an investment of

3. P. Whitney Lackenbauer, Matthew J. Farish, and Jennifer Arthur-Lackenbauer, *The Distant Early Warning (DEW) Line: A Bibliography and Documentary Resource List* (Calgary: Arctic Institute of North America, 2005), <http://pubs.aina.ucalgary.ca/aina/DEWLineBib.pdf>.

4. Anthony H. Cordesman, *Salvaging American Defense: The Challenge of Strategic Overstretch* (Westport, Conn.: Praeger Security International, 2007).

5. Vladimir Soldatkin, "Novatek Shares Jump 6,3 pct on Tax Cancellation," Reuters, July 21, 2011, <http://www.reuters.com/article/2011/07/21/russia-novatek-shares-idUSLDE76K1DO20110721>.

2 billion rubles (\$64 million) in territorial research in the region and launched a drifting polar research center on an ice floe north of the Arctic Circle, manned by 15 scientists year-round, to gather scientific evidence.⁶

Norway has also made the Arctic a major priority in both domestic and foreign politics. In focusing on “investment in the High North” (Nordområdesatsningen), the government has launched new research centers, encouraged funding for regional business development, and funded approximately \$3.6 million for “BarentsWatch,” which monitors the Barents region.⁷ Norwegian Minister of Foreign Affairs Jonas Gahr Støre has stated that “the High North is the most important strategic priority in Norwegian foreign policy. This is why the Government has proposed an allocation of NOK 1.2 billion [\$214 million] for various High North projects for next year... the Government is giving priority to important projects in the High North, and we are providing the funding to deliver on our promises.”⁸

The Russian nuclear icebreaker *Yamal* is one of the largest and most powerful in the world, capable of cutting through thick Arctic pack ice.



Source: Wikimedia Commons. Photo by Wofratz.

Canada is another Arctic actor that has increasingly focused on engagement in the region. In March 2008, Canadian Prime Minister Stephen Harper stated that “Canada’s North [is] one of the Government’s top political and economic priorities.”⁹ This statement was reinforced in 2010 when Minister of Foreign Affairs Lawrence Cannon noted that “the importance of the Arctic and Canada’s interest in the North have never been greater.”¹⁰ Canada’s Northern Strategy and foreign policy in the Arctic both focus on four objectives: sovereignty, economic and social development, governance, and environmental protection. In support of these goals, Canada has allocated plentiful resources to revitalize its fleet, including a commitment of \$33 billion to build 28 new vessels over

6. Tai Adelaja, “Northern Gold Rush,” *Moscow News*, September 27, 2010, <http://themoscownews.com/news/20100927/188073562.html?referfrommn>.

7. Norwegian Ministry of Foreign Affairs, “NOK 1.2 Billion for Efforts in the High North for 2011,” news release, October 5, 2010, http://www.regjeringen.no/en/dep/ud/press/news/2010/high_north_efforts.html?id=619032.

8. Ibid.

9. Prime Minister of Canada, “Prime Minister Harper Delivers on Commitment to the “New North,”” news release, March 10, 2008, <http://pm.gc.ca/eng/media.asp?id=2015>.

10. Foreign Affairs and International Trade Canada, “Address by Minister Cannon at Launch of Statement on Canada’s Arctic Foreign Policy,” news release, August 20, 2010, <http://www.international.gc.ca/media/aff/speeches-discours/2010/2010-057.aspx?lang=eng&view=d>.

the next 30 years in an effort to modernize the Navy and Coast Guard.¹¹ This massive shipbuilding project will include the construction of six to eight Arctic patrol ships and a new icebreaker.

A U.S. Coast Guard HH-65 Dolphin helicopter prepares to depart the USCGC *Healy*.



Source: Wikimedia Commons.

NSPD-66

In stark contrast to each of these examples, the United States is the only Arctic coastal state that does not currently have any large-scale economic development plan for the region and has a woeful lack of Arctic military capabilities. The most definitive declaration of U.S. policy toward the Arctic, National Security Presidential Directive (NSPD-66) on Arctic Region Policy, articulates the most pressing U.S. security interests in the region:

- Missile defense and early-warning systems
- Deployment of sea and air systems for strategic sealift, strategic deterrence, maritime presence, and maritime security operations
- Ensuring freedom of navigation and overflight
- Preventing terrorist attacks and mitigating criminal or hostile acts that could increase U.S. vulnerability to terrorism in the Arctic region¹²

11. Trude Pettersen, "Canada Boosts Shipbuilding," *BarentsObserver*, October 20, 2011, <http://www.barentsobserver.com/canada-boosts-shipbuilding.4974951.html>.

12. White House website, National Security Presidential Directive 66 / Homeland Security Presidential Directive 25 (NSPD-66/HSPD-25), "Arctic Region Policy," January 9, 2009, 2, <http://www.fas.org/irp/offdocs/nspd/nspd-66.htm>.

NSPD-66 also addresses governance, scientific cooperation, environmental issues, boundaries and continental shelf disputes, and economic developments. The U.S. Coast Guard,¹³ the U.S. Navy,¹⁴ and the U.S. Department of Defense¹⁵ have released their own strategic documents pertaining to current and future developments in the Arctic. The main theme in all three documents is the lack of current U.S. capabilities, especially compared to the ambitious and escalating plans in the other four Arctic coastal states. In its *Report to Congress on Arctic Operations in the Northwest Passage*, the Department of Defense states that “the challenge is to balance the risk of being late-

to-need with the opportunity cost of making investments in the Arctic before they are needed, especially given the many competing demands on Department of Defense resources in the current fiscal environment.”¹⁶ This statement is sobering, as the security environment has arguably already developed to such an extent that “late-to-

Secretary of the Navy Ray Mabus debarks a helicopter while visiting the Applied Physics Laboratory in Alaska.



Source: Wikimedia Commons.

need” is now an accurate description of the U.S. posture in the Arctic.¹⁷ The U.S. Navy’s “Arctic Roadmap” stresses the need for the U.S. Navy to become more active in the Arctic region and places specific emphasis on investing in the “right weapons, platforms, sensors, C4ISR¹⁸ capability, and installations and facilities at the right time and cost to meet combatant commander requirements in the Arctic region.”¹⁹ However, it is not the U.S. Navy that will be in greatest demand in the Arctic over the next several decades: it is the U.S. Coast Guard.

13. U.S. Coast Guard, *Report to Congress: U.S. Coast Guard Polar Operations, 2008*, <http://www.uscg.mil/history/docs/2008CRSUSCGPolarOps.pdf>.

14. U.S. Navy, “U.S. Navy Arctic Roadmap,” October 2009, http://www.navy.mil/navydata/documents/USN_artic_roadmap.pdf.

15. U.S. Department of Defense, “Report to Congress on Arctic Operations in the Northwest Passage,” May 2011, http://www.defense.gov/pubs/pdfs/Tab_A_Arctic_Report_Public.pdf.

16. *Ibid*, 25.

17. Heather Conley, “Opening Remarks” (presentation at the conference “Arctic Horizons: Views from the Departments of Defense and State on Future Opportunities in the Arctic,” CSIS, June 29, 2011), <http://csis.org/event/arctic-horizons>.

18. Command, control, communications, computers, intelligence, surveillance, and reconnaissance.

19. U.S. Coast Guard, “Report to Congress,” i.

The 2008 *U.S. Coast Guard Polar Report* opens with a warning that “if changes in summer Arctic conditions continue to trend as observed in the past six years, we may expect incidents and casualties to occur with greater frequency and/or farther from U.S. shores.”²⁰ The report explicitly calls for “icebreakers and other surface, aviation and shore assets capable of operating in the Polar Regions to maintain a sovereign presence, safeguard U.S. interests and respond to calamity.”²¹ Each of these documents highlights a clear need for investment and coordination by the U.S. government if it is to maintain a meaningful presence in the Arctic region and if the most pressing security interests in the Arctic, as emphasized in NSPD-66, are to be addressed.

Missile Defense and Early Warning Systems

Missile defense and early warning systems are the first critical security interest in the Arctic highlighted by NSPD-66. At the Multinational Ballistic Missile Defense Conference in 2004, Lieutenant General Trey Obering, U.S. Air Force director of the Missile Defense Agency, defined the agency’s mission as “straightforward...to develop and field an integrated layered ballistic missile defense system to defend the US, our allies, deployed forces and friends around the world.”²² U.S. missile defense and early warning systems in the Arctic are an important element of national security.²³

Three U.S. air force bases located in the Arctic—Fort Greely and Fort Clear in Alaska and Thule Air Force Base in Greenland—are integral to the U.S. Global Ballistic Missile Defense System and are of significant strategic value. Fort Greely, which originally hosted the Chemical Corps Arctic Test Team, was closed in 1995 as part of the Base Realignment and Closure, or BRAC, process.²⁴ The base was downsized and reopened in 2004 to station interceptor missiles as part of the Bush administration’s national missile defense plans.²⁵ These plans were critical to expanding the ballistic missile defense system, which is considered the first line of defense in deterring intercontinental ballistic missiles from North Korea or other potential threats from Asia.²⁶ Fort Greely is also home to the 49th Missile Defense Battalion, the 59th Signal Network Enterprise Center, the U.S. Air Force 12th Space Warning Squadron (which operates a ballistic missile early warning site), and members of the Alaska National Guard.

As the most northerly U.S. military installation, Thule Air Base participates in the Ballistic Missile Early Warning System (BMEWS) while providing satellite control and space situational awareness for most of the Arctic. It is an integral part of the U.S. ability to observe and respond to emergency situations in the Arctic. The Clear Air Force Station in Anderson, Alaska, serves as the western U.S. counterpart to Thule Air Base as part of the BMEWS.²⁷ Fort Greely, Thule Air Force

20. Ibid.

21. Ibid, 18.

22. Address by Lt. General S Trey Obering, Multinational Ballistic Missile Defense Conference, July 19, 2004, http://www.mda.mil/global/documents/pdf/ps_oberng04.pdf.

23. White House, National Security Presidential Directive 66, Arctic Region Policy,” 2.

24. U.S. Army Garrison, Fort Greely website, “History of Fort Greely,” <http://www.greely.army.mil/about/history.aspx>.

25. Bradley Graham, “New Breed of Missile Silos Put in Alaska,” *Washington Post*, May 27, 2003, <http://www.washingtonpost.com/ac2/wp-dyn/A41901-2003May26?language=printer>.

26. Elisabeth Bumiller and David E. Sanger, “Gates Warns of North Korea Missile Threat to U.S.,” *New York Times*, January 11, 2011, http://www.nytimes.com/2011/01/12/world/asia/12military.html?_r=2&hp.

27. U.S. Department of Defense, “Report to Congress on Arctic Operations and the Northwest Passage,” May 2011, 15.

Base, and Fort Clear are tasked with providing the underlying global missile defense architecture for the United States and will continue to do so into the future.

Maritime Security, Safety, and Stewardship

NSPD-66 also cites maritime security, safety, and stewardship as a central goal for U.S. security policy in the Arctic. As the region's ice recedes and economic activity increases, there is a growing recognition that current U.S. capabilities for ensuring maritime enforcement, security, and safety in the Arctic are significantly lacking. As a component of the U.S. Department of Homeland Security, the U.S. Coast Guard is the lead agency responsible for U.S. maritime law enforcement and safety. As the Coast Guard anthem, "Semper Paratus," declares, it has ships present "from Aztec Shore to Arctic Zone, to Europe and Far East."²⁸ As one of the oldest federal agencies, the USCG is critical to achieving the projection and protection of U.S. security interests in the Arctic, particularly search-and-rescue capabilities. The Arctic's vast distances, harsh and unpredictable climate, and economic growth will be a constant source of challenge to the U.S. Coast Guard. In response, the USCG has requested the construction of new operating bases in the northern parts of Alaska where it currently has only ports, the acquisition of additional ice-strengthened vessels and equipment able to operate in ice conditions, and maritime surveillance and enhanced satellite communication to improve Arctic maritime domain awareness.

In 2008, the House and Senate Appropriations Committees mandated that the U.S. Coast Guard submit a report on polar operations to Congress. This decision was motivated by concerns that the USCG could not meet its polar operations mission requirements and support U.S. national interests in the region. *The U.S. Coast Guard Polar Operations* report emphasized that the main operational factor on the north coast of Alaska is fuel capacity and distance to fuel sources.²⁹ The closest fueling point for U.S. Coast Guard vessels is the Coast Guard port at Point Barrow on Alaska's North Slope, which is nearly 1,000 nautical miles away in Dutch Harbor, with the closest USCG air station 818 nautical miles away in Kodiak.³⁰ Because the Coast Guard is unable to sustain a presence in the Arctic Ocean for more than a few days, it must cooperate with the Canadian Coast Guard or rely on the capabilities of the private sector. Interestingly, the energy company Royal Dutch Shell has developed several new Arctic vessels, including the ice-class oil spill response vessel *Nanuk* and the *Arctic Endeavor*, an ice-strengthened oil spill response barge.³¹ Compared to the lack of public investment and funding for oil spill capacity in the region, the efforts made by the private sector are significantly greater than governmental resources. The involvement of Shell highlights the importance of cooperation with the private sector and the possibility for companies to act as a third party provider for states lacking capabilities in the region.

Freedom of Navigation

The foundational element of any U.S. security strategy for the Arctic, including NSPD-66, is to ensure freedom of navigation. As a nation heavily dependent on shipping and maritime access, the United States has a vital national interest in supporting the most stringent enforcement of open

28. U.S. Coast Guard website, "USCG Anthem," <http://www.uscg.mil/top/downloads/anthem.asp>.

29. U.S. Coast Guard, "Report to Congress: U.S. Coast Guard Polar Operations," 2008, 11.

30. Ibid.

31. Shell, "Shell Camden Bay and Chukchi Sea Program Update," PowerPoint presentation, March 2011, http://www-static.shell.com/static/usa/downloads/alaska/2011_community_meetings.pdf.

sea lanes of communication. The most effective tool for governing and enforcing the right of free passage in international straits is the UNCLOS treaty.

The fact that the United States has not ratified the treaty is of key relevance to its efforts to ensure freedom of navigation in the Arctic and to take full advantage of the region's economic benefits. A product of nine years of international collaboration and active U.S. participation, UNCLOS entered into force in 1994 and provides the most comprehensive framework available for governing the world's oceans, including the Arctic. The treaty established internationally recognized measures to claim sea areas and rights to territorial waters, exclusive economic zones, and extensions of national underwater continental shelves. Currently 161 countries and the European Union have joined the convention.³² While the United States has not ratified the treaty, it does view the treaty as international customary law and abides by nearly all its articles. It is unclear when the U.S. Senate will ratify the treaty, although both the Bush and the Obama administrations have sought ratification.

UNCLOS holds specific value for the Arctic security environment as it lays out a set of rules on how to divide disputed territory and resolve possible tensions. It also represents the only path for Arctic coastal states to submit scientific claims to extend their outer continental shelf, which provides important clarity for future economic development. While the five Arctic coastal states are limited by their exclusive economic zone of 200 nautical miles from their coasts, the convention allows them to extend their economic zone if they can prove that the Arctic seafloor's underwater ridges are a geological extension of the country's own continental shelf. Within 10 years of ratifying the UNCLOS, countries must submit evidence to the UN Commission on the Limits of the Continental Shelf, the governing body created to deliberate on these submissions, to make their case for an extended continental shelf.

Unfortunately, as UNCLOS nears its 40th anniversary, the United States has yet to ratify the treaty despite strong urging from the U.S. Defense and State Departments, as well as from the Joint Chiefs of Staff. In its "Arctic Roadmap," the U.S. Navy actively supports accession to UNCLOS because it provides "effective governance: freedom of navigation, treaty vs. customary law, environmental laws, and extended continental shelf claims."³³ Joining UNCLOS would give the U.S. government a clear framework in which it could more effectively confront growing difficulties pertaining to freedom of navigation in the Arctic region. By not ratifying the U.N. Convention on the Law of the Sea, the United States is at a considerable economic disadvantage as the other Arctic coastal states submit their claims. The United States maintains the world's largest EEZ and has 360 major commercial ports. With potential claims of up to 600 miles of possible resource-rich continental shelf territory in the Arctic, remaining outside the UNCLOS only erodes the position of the United States in the region.

These difficulties have been made explicitly clear in recent reports from the Department of Defense and the U.S. Navy. The Department of Defense has noted that its "lack of surface capabilities able to operate in the marginal ice zone and pack ice will increasingly affect accomplishment

32. United Nations, "Oceans and Law of the Sea: Chronological Lists of Ratifications of, Accessions and Successions to the Convention and the Related Agreements as at 03 June 2011," http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm.

33. U.S. Navy, "U.S. Navy Arctic Roadmap," October 2009, 11, http://www.navy.mil/navydata/documents/USN_artic_roadmap.pdf.

of this mission area [sea control] over the mid- to far-term.”³⁴ Moreover, the U.S. Navy “acknowledges that while the Arctic is not unfamiliar for the Navy, expanded capabilities and capacity may be required for the Navy to increase its engagement in this region.”³⁵ These challenges are likely to increase moving forward unless further action is taken. As discussed below in further detail, the fact that the United States has yet to ratify UNCLOS compounds these issues.

Narwhals in the Arctic.



Source: Wikimedia Commons.

Terrorism and Law Enforcement

The fourth key strategic priority highlighted in NSPD-66 is related to preventing terrorism and ensuring sufficient law enforcement capabilities. While the United States aspires to prevent terrorism and provide credible law enforcement in the Arctic region, its capabilities in the region are questionable at best.

In the United States, the Coast Guard is responsible for ice operations (conducting and supporting scientific research), search and rescue (deploying assets to respond to search and rescue incidents), marine environmental protection (responding to oil or hazardous materials spills), and aids to navigation (facilitating navigation and preventing disasters, collisions, and wrecks, using aids such as buoys, lights, and signs) within the Arctic Circle. Currently, the U.S. Coast Guard is struggling to maintain these critical competencies. It has no operating bases or stations above the Arctic Circle in Alaska, thereby delaying any search-and-rescue or maritime deployment in the U.S. Arctic Sea time by a minimum of eight hours by air and days by sea.³⁶ These extremely limited capabilities call into question the ability of the USCG and the U.S. government to effectively prevent terrorism and ensure strong law enforcement in the Arctic. In his December 2011 testimony to the House Subcommittee on Coast Guard and Maritime Transportation, the commandant of the U.S. Coast Guard, Admiral Robert J. Papp Jr., publicly stated that the Coast Guard does not currently have the infrastructure or the vessels it would need to fully meet the requirements of NSPD-66 on Arctic region policy and the subsequent executive order 13547, “Stewardship of the

34. U.S. Department of Defense, “Report to Congress on Arctic Operations and the Northwest Passage,” 15.

35. U.S. Navy, “U.S. Navy Arctic Roadmap,” 6.

36. *Ibid.*, 38.

Ocean, Our Coasts, and the Great Lakes.”³⁷ Due to limited assets above the Arctic Circle, the Coast Guard has at times been forced to rely on third-party responders as it did in July 2007, when a Shell Oil Company helicopter and Canadian Coast Guard cutter assisted a 20-foot skiff near Barrow, Alaska.³⁸

In May 2010, the heavy-duty icebreaker U.S. Coast Guard cutter *Polar Sea* suffered a major engine failure and was removed from service. As a result, until the *Polar Sea*’s estimated return to service in 2014, the United States will have only one medium-duty operational icebreaker in commission, the U.S. Coast Guard cutter *Healy*. The Coast Guard’s entire icebreaker inventory includes the heavy icebreakers, *Polar Sea* and *Polar Star*, and a newer, lighter icebreaker, the *Healy*.³⁹ The *Polar Star* has been out of commission in “caretaker status” since 2006, but it is being reactivated and ought to return to service by 2013. It has an estimated 7–10 years of service life after that date.⁴⁰ The *Healy*, which is relatively new, has approximately 17 more years of service life.⁴¹

The House and the Senate have had heated discussions about how best to extend the life of the *Polar Sea* and *Polar Star* and the associated cost. The Obama administration has been reluctant to weigh in on this congressional debate and keen to see the debate end altogether, given the cost of either life extension or a new icebreaker, estimated at \$800–925 million.⁴² This high cost is anathema to the White House Office of Management and Budget and to the Departments of Defense and Homeland Security, which see this expense as a threat to their already diminishing budgets. The U.S. Arctic security budget is a complicated affair. In fiscal year 2011, the National Science Foundation (NSF) managed the budget and schedule for the icebreakers, undermining the Coast Guard’s control of its own assets. The Coast Guard’s total budget for FY 2011 decreased nearly 3 percent from its FY 2010 funding levels to \$10.1 billion,⁴³ illustrating a dangerous trend in reducing resources while expanding responsibilities. There has been a notable change, however, as the USCG has regained control of the *Healy* and its budget and scheduling for FY 2012. As a result, the budget for FY 2012 increased 2.5 percent from FY 2011, reflecting the \$39 million allocated to operate and maintain the *Healy*.⁴⁴

However, in spite of these challenges, signs that the United States is beginning to rethink aspects of its current military posture in the region are promising. The Department of Defense has

37. U.S. House Committee on Transportation and Infrastructure, “Subcommittee Hearing to Examine U.S. Coast Guard Arctic Operations,” news release, November 29, 2011, <http://transportation.house.gov/News/PRArticle.aspx?NewsID=1464>.

38. U.S. GAO, “Coast Guard: Efforts to Identify Arctic Requirements Are Ongoing, but More Communication about Agency Planning Efforts Would Be Beneficial,” September 2010, <http://www.gao.gov/new.items/d10870.pdf>.

39. U.S. Department of Homeland Security, “The Coast Guard’s Polar Icebreaker Maintenance, Upgrade, and Acquisition Program,” January 2011, http://www.oig.dhs.gov/assets/Mgmt/OIG_11-31_Jan11.pdf.

40. U.S. GAO, “Coast Guard: Efforts to Identify Arctic Requirements Are Ongoing,” 54.

41. Connie Braesch, “Icebreaker POLAR SEA Sidelined by Engine Troubles,” *Coast Guard Compass*, June 25, 2010, <http://coastguard.dodlive.mil/2010/06/icebreaker-polar-sea-sidelined-by-engine-troubles/>.

42. U.S. GAO, “Coast Guard: Efforts to Identify Arctic Requirements Are Ongoing.”

43. Lawrence J. Korb, Sean Duggan, and Laura Conley, *Building a U.S. Coast Guard for the 21st Century* (Washington, D.C.: Center for American Progress, 2010), 7, http://www.americanprogress.org/issues/2010/06/pdf/coast_guard.pdf.

44. U.S. Coast Guard Headquarters, “U.S. Coast Guard Fact Sheet: Fiscal Year 2012 President’s Budget,” fact sheet, February 14, 2011, http://www.uscg.mil/posturestatement/docs/USCG_FY2012_BudgetFactSheet.pdf.

The Applied Physics Laboratory Ice Station, located about 300 kilometers south of the Arctic Circle in Alaska, is a cooperative research institute supported by both the U.S. and Japanese governments.



Source: Wikimedia Commons.

realigned responsibilities and made changes to the Arctic region’s military command structure. The Defense Department has moved from a tri-shared command structure among the Commander for the U.S. European Command, the Commander for the U.S. Northern Command, and the Commander for the U.S. Pacific Command to a dual-sharing arrangement between the European command and the Northern Command, with the latter having singular advocacy responsibility for Arctic capabilities.⁴⁵ This change—strongly recommended in the report of the Center for Strategic and International Studies, *U.S. Strategic Interests in the Arctic*⁴⁶—will improve the effectiveness and coordination of the U.S. command structure for the Arctic. While doubts about capabilities remain, this streamlined command structure is an important step forward that will improve law enforcement in the region.

The United States as an Arctic Science Power

Although the United States lacks an overarching Arctic economic development strategy and suffers from insufficient security assets, it does maintain a competitive edge in the field of research and science. Northern Alaska has always been a region of particular interest to scientists with its unique climate, flora, and fauna. The Greenland Ice Sheet Project Two, initiated in 1998 by the Office of Polar Programs of the NSF, provided the world with what was then the deepest ice core ever recovered as well as the clearest outline of climate history.⁴⁷ The discoveries of this project piqued the interest of the scientific community and made clear that the Arctic is one of the most

45. U.S. Department of Defense, “Report to Congress on Arctic Operations and the Northwest Passage,” 20.

46. Heather Conley and Jamie Kraut, *U.S. Strategic Interests in the Arctic: An Assessment of Current Challenges and New Opportunities for Cooperation* (Washington, D.C.: CSIS, 2010), http://csis.org/files/publication/100426_Conley_USStrategicInterests_Web.pdf.

47. Greenland Ice Sheet Project 2, GISP2 Science Management Office, Climate Change Research Center Institute for the Study of Earth, Oceans and Space website, University of New Hampshire, Durham, <http://www.gisp2.sr.unh.edu/>.

important places to study climatic changes, global temperatures, sea ice extent, and short-lived climate forcers, such as black carbon and levels of methane. The United States has been at the vanguard of international climate research with established institutions like the National Science Foundation, U.S. Arctic Research Commission (USARC, part of the NSF),⁴⁸ the U.S. Geological

The U.S. Coast Guard ferries members of a science party back from an Arctic mission.



Source: Wikimedia Commons.

Survey,⁴⁹ and the Inter-agency Arctic Research Policy Committee,⁵⁰ the National Oceanic and Atmospheric Administration,⁵¹ and the National Snow and Ice Data Center.⁵² The National Science Foundation had an annual budget of \$6.8 billion for FY 2011, with the Office of Polar Programs receiving \$493.4 million and USARC research receiving \$1.58 million.⁵³ The USARC has laid out its research goals in its *Report on Goals and Objectives for Arctic Research*, stressing five main themes:

environmental change of the Arctic, Arctic Ocean, and Bering Sea; Arctic human health; civil infrastructure; natural resource assessment; and indigenous languages, cultures, and identities.⁵⁴ These goals are broad based, and while they may not directly address security concerns, they do have an impact on U.S. Arctic policy because all future decisionmaking related to the Arctic—be it economic development or aligning security assets—is completely dependent on a strong scientific understanding of this fragile milieu. There can never be too much scientific data or understanding

48. U.S. Arctic Research Commission, “About USARC,” <http://www.arctic.gov/about.html>.

49. U.S. Geological Survey, “Arctic Cruise Explores Changing Ocean,” August 10, 2011, <http://www.usgs.gov/newsroom/article.asp?ID=2876&from=rss>.

50. Kate Moran, “NSTC to Coordinate Certain Arctic Research Policy Committee Activities,” Office of Science and Technology, August 23, 2010, <http://www.whitehouse.gov/blog/2010/08/23/nstc-coordinate-certain-arctic-research-policy-committee-activities>.

51. National Oceanic and Atmospheric Administration, “NOAA Arctic Research Program,” <http://www.arctic.noaa.gov/arp/>.

52. National Snow and Ice Data Center, “Media Advisory: Arctic Sea Ice Reaches Lowest Extent for 2011,” news release, September 15, 2011, http://nsidc.org/news/press/20110915_minimum.html.

53. National Science Foundation, “Full Year Appropriations Bill Passed, NSF Funded for \$6.8 Billion,” May 23, 2011, http://www.nsf.gov/about/congress/112/highlights/cu11_0523.jsp.

54. U.S. Arctic Research Commission, *Report on Goals and Objectives for Arctic Research 2009–2010* (Washington, D.C.: Arctic Research Commission and Anchorage, 2010), 1, http://www.arctic.gov/publications/usarc_2009-10_goals.pdf.

about this largely unknown region, and the current level of U.S. science and research in the Arctic is a critical and foundational element of a proactive U.S. leadership model.

Unfortunately, strong capabilities as an Arctic science power do not make up for the deficiency in the rest of U.S. coastal and security capabilities. As stated in the Coast Guard's own report to Congress in 2008, "Although the NSF is a global leader in scientific research, the Coast Guard believes that the NSF would lack the staff and expertise to direct the multi-mission deployment of icebreakers employed for other USCG missions."⁵⁵ In addition, the National Oceanic and Atmospheric Administration is unable to collect and provide all the information on weather forecasting, oceanography, and navigational charting requested by the Coast Guard, the industries, and the local communities.⁵⁶ In fact, the NSF has repeatedly made use of Canadian, Russian, and Swedish icebreakers to transport U.S. scientists in the U.S. Arctic, where U.S. capabilities were nonexistent.⁵⁷ This kind of arrangement has proven both risky and inefficient. In July 2011, Sweden decided to recall its icebreaker *Oden*, leased to the NSF every winter since 2006–07, due to worsening ice conditions in the Baltic Sea. This recall left the United States without the technical ability to reach and resupply McMurdo station in Antarctica.⁵⁸ Further examples illustrate U.S. dependence on other nations as a result of its own lack of capabilities. In December 2011, officials from Nome, Alaska, requested a Russian fuel tanker to deliver an emergency shipment when the city was blocked by sea ice. Originally, the *Healy* was unavailable to assist with this operation as it was returning from a previously scheduled scientific mission.⁵⁹ However, the *Healy* is now scheduled to break an ice channel for the tanker once the Russian vessel is cleared to enter the Alaskan port and will facilitate the tanker's return to open water.⁶⁰ As U.S. capabilities are stretched between critical missions and its ongoing yet equally critical scientific work, the need to address these shortfalls in capabilities is urgent, as Alaskan Lieutenant Governor Mead Treadwell stated in his December 2011 congressional testimony: "Without action, America is putting its national security on the line, and we are going to miss the opportunities of the Arctic while watching other nations advance."⁶¹

What is missing from the myriad of U.S. documents related to the Arctic is a long-term vision or, at a minimum, the articulation of a U.S. national economic strategy for the Arctic. The economic aspect of this vision must include a public-private capabilities package that adequately supports its goals while ensuring robust maritime stewardship of the fragile Arctic ecosystem and increasing maritime safety. Until the United States has this strategy in place, it will be difficult to make informed decisions about the precise capabilities it requires in the Arctic.

55. U.S. Coast Guard, *Report to Congress: U.S. Coast Guard Polar Operations* (Washington, D.C.: USCG, 2008), 17, http://www.uscg.mil/hq/cg5/cg513/docs/FY08_OMNIBUS_Polar_Ops_Report.pdf.

56. *Ibid.*

57. Rear Admiral Christopher C. Colvin, "USCG D17 Arctic Brief" (presentation, January 27, 2011), <http://www.uscg.mil/d17/Arctic%20Overview%20Feb2011.pdf>.

58. Autonomous Mind, "Reality of Sea Ice Is Starting to Bite," *Wordpress*, August 31, 2011, <http://autonomousmind.wordpress.com/2011/08/31/reality-of-sea-ice-is-starting-to-bite/>.

59. Alex DeMarban, "Russian Icebreaker to Deliver Fuel to Nome, Highlighting Shortage of U.S. Icebreakers," *Alaska Dispatch*, December 5, 2011, <http://www.alaskadispatch.com/article/russian-icebreaker-deliver-fuel-nome-highlighting-shortage-us-icebreakers>.

60. *Ibid.*

61. Statement for the Record by the Honorable Mead Treadwell, Lieutenant Governor of the State of Alaska, before the U.S. House of Representatives, Committee Transportation on Transportation and Infrastructure's Subcommittee on Coast Guard and Maritime Transportation, "America Is Missing the Boat," December 1, 2011, Washington, D.C., <http://republicans.transportation.house.gov/Media/file/TestimonyCGMT/2011-12-1-Treadwell.pdf>.

5

DESIGNING A NEW SECURITY ARCHITECTURE FOR THE ARCTIC

The Role of NATO

In a consideration of security in the Arctic, the North Atlantic Treaty Organization (NATO) emerges as a natural candidate. Fifty percent of the circumpolar region is the territory of a NATO member, and four out of the five Arctic coastal states are NATO members. Moreover, the treaty requires that all members “unite their efforts for collective defense and for the preservation of peace and security.”¹ Whereas the NATO Treaty limits its southern boundary to the Tropic of Cancer, it does not limit its northern area of responsibility.² For Canada, Denmark, Norway, and to a much lesser extent the United States, the Arctic is a strong factor, if not a dominant one, in their national security priorities, and NATO is central to their general defense and security strategies. Because NATO’s Article 5 commitment—“an attack against one is an attack against all”—extends to the Arctic, NATO has played and will continue to play a role in the Arctic. Active proponents of increasing NATO’s engagement in the Arctic argue that the alliance needs to pay renewed attention to its core “in area” collective defense function as opposed to embarking on further “out of area” operations such as Afghanistan. If NATO wishes to better balance its collective defense activities with its expeditionary missions, then it must look north toward the Arctic as much as it looks to the east and to the south. This position is consistent with the recent *Analysis and Recommendations of the Group of Experts on a New Strategic Concept for NATO*, which asserts that the alliance’s ability to deter and defend member states against any threat of aggression, as embodied in Article 5, “should be reaffirmed in unmistakable terms.”³

However the exclusion of Russia from NATO, with the exception of the NATO–Russia Council, presents a fundamental dilemma, and NATO’s role in the Arctic will therefore be muted for the foreseeable future. There is currently no consensus within the alliance that NATO has any role to play in the Arctic, as Canada strongly opposes any NATO involvement on sovereignty grounds and other NATO members are concerned with negative Russian reaction. At present, NATO monitors military activity in the Arctic and coordinates joint training exercises for the purposes of building confidence and cooperation, enhancing capabilities, and improving interoperability. How NATO’s role will evolve in the future has not yet been clearly defined. Current proposals suggest a range of possibilities, from NATO’s serving as a forum for dialogue and information sharing to conducting contingency planning for disaster relief and air and sea rescue.

1. The North Atlantic Treaty, April 4, 1949, http://www.nato.int/cps/en/SID-98D258E5-F17DA9D0/natolive/official_texts_17120.htm?

2. Ibid., Article 6, “...North Atlantic area north of the Tropic of Cancer.”

3. NATO, *NATO 2020: Assured Security; Dynamic Engagement: Analysis and Recommendations of the Group of Experts on a New Strategic Concept for NATO* (Brussels: NATO Public Diplomacy Division, 2010), 19, http://carnegieendowment.org/pdf/20100517_100517_expertsreport.pdf.

NATO was acutely aware of the Soviet Union's activity in the Arctic Circle and the potential for nuclear confrontation. In 1958, "the Soviet Union . . . aggravated international tension by its veto in the Security Council of the United States proposal to reduce the risks of surprise attack over the Arctic."⁴ Consequently, the United States and NATO established bases in the north—most significantly in Alaska, as well as Thule Air Force Base in Greenland and Keflavik Air Force Base in Iceland—as an element of its global strategy to contain the Soviet Union. But with the dissolution of the Soviet Union and the West's transformation of its relations with Russia, NATO's focus dramatically shifted away from the Arctic. Instead, discussion focused on environmental issues related to the "present levels of radioactive contamination" and the "potential risks for the future"⁵ of abandoned Soviet nuclear submarine reactor cores and residual waste located in the Arctic. Programs such as the Arctic Military Environmental Cooperation project—a cooperative effort among Norway, Russia, the United Kingdom, and the United States to mitigate the environmental damage caused by Soviet military activities in the Arctic—were launched in the mid-1990s.⁶ NATO organized an advanced research workshop in Pasvikkalen, Norway, in June 1996 with scientists and experts from several NATO and cooperation partner countries to discuss contamination in the Arctic High North. The workshop developed "recommendations for concrete cooperative activities . . . which would help to resolve the nuclear and chemical contamination brought about by military and civilian activities there and serve as general guidelines for similar projects elsewhere."⁷

NATO's engagement in the Arctic is also an opportunity for cooperative action with Russia and for building nonmilitary capabilities through joint training. In September 1996 under the Partnership for Peace program, the Russian Ministry of Defense and NATO's Civil Emergency Planning Directorate organized Arctic-Sarex 96. This exercise in search and rescue, which involved Canada, Russia, and the United States, tested the international mechanisms of emergency notification and response in the event of an airplane disaster. This exercise was the first in which military units from Canada, the Russian Federation, and the United States practiced cooperation in search-and-rescue activities and the delivery of humanitarian assistance. This experience helped create a framework for cooperative relations between NATO and Russia in the Arctic.

All activities in the Arctic, however, have not been cooperative in nature. As climate change rapidly transforms the region, the five Arctic coastal states have needed to make necessary adjustments to their land and maritime border security postures. With the largest Arctic coastline, Russia has pursued a more pronounced and active role, developing its coastal defense infrastructure, enhancing its technological capabilities, and investing in the world's most modern nuclear icebreaker fleet.⁸ Russian activities have also included firing cruise missiles over the Arctic in a

4. P. H. Spaak, "Final Communiqué," May 5–7, 1958, http://www.nato.int/cps/en/natolive/official_texts_17638.htm.

5. "Meeting of NATO Committee on the Challenges of Modern Society (CCMS) with Cooperation Partners," NATO communiqué, April 26, 1995, <http://www.nato.int/docu/pr/1995/p95-032.htm>.

6. Text of the declaration on Arctic military environmental cooperation, generated on March 16, 2010, <http://www.denix.osd.mil/international/upload/Declaration.pdf>.

7. NATO, "NATO Advanced Research Workshop on Recycling, Remediation, and Restoration Strategies for Contaminated Civilian and Military Sites in the Arctic Far North," news release, June 24, 1996, http://www.nato.int/cps/en/SID-FAE9A30F-F3483112/natolive/news_24913.htm?mode=pressrelease.

8. The future of Russia's sea-based strategic deterrent force revolves around the Borei-class submarines, eight of which are planned to be built by 2017. The first was completed in 2008 and is currently undergoing sea trials. Another three are already under construction. While the submarines themselves seem to be in

summer 2007 exercise, resuming surface naval patrols in Arctic waters in 2008, reinforcing its strategic nuclear forces (the Northern Fleet), testing new electronic equipment and precision weapons, and modernizing its nuclear arsenal, including the building of eight fourth-generation Borei-class ballistic missile submarines planned to be completed by 2017. Following an order from Vladimir Putin in August 2007, the Russian air force resumed long-range bomber patrols, passing over the Arctic and up to Canadian⁹ and U.S. airspace for the first time since the Cold War. Generally, these routine patrols are performed in strict compliance with international law on the use of airspace over neutral waters; however, there have been a few breaches into NATO airspace.¹⁰ As a result, NATO aircraft have begun to shadow these Russian air patrols. In May 2010, two Russian Tu-160 Blackjack strategic bombers that carried out a routine patrol mission over the Arctic and Atlantic Oceans were shadowed by four NATO fighters, F-16 Fighting Falcons of the Norwegian Air Force, and two RAF Tornados. This is thought to be the first time Russian strategic bombers have been followed by such a large number of NATO jets.¹¹

As the Arctic coastal states seek to protect their sovereignty and ensure their national security with the rise in regional economic activity, the risk of accidents, security incidents, and miscommunication rises precipitously. In a low-key manner, NATO has attempted to keep pace with the growing security complexity of the Arctic. For example, NATO and the government of Iceland organized a conference in January 2009 on security prospects in the High North¹² to initiate a dialogue on the vast array of security challenges that will inevitably arise in the Arctic. To ensure preparedness, joint training, transparency, and collaboration have been an element of NATO members' work in the Arctic. Large-scale military exercises have been conducted in northern Norway in partnership with other NATO-member Arctic nations. Exercise Cold Response, which began in 2006, is a multinational crisis response military exercise focusing on cold weather amphibious operations, interoperability of expeditionary forces, and special and conventional ground operations. It has become an annual exercise involving more than 8,500 Norwegian and NATO troops, with over 14 nations participating in 2010's exercise. Other training operations include the biennial Ice Exercise (ICEX), where submarines emerge through the ice for a week of experimentation and torpedo shooting, in addition to exercises Northern Eagle, Arctic Edge, and Arctic Care, among others. In Northern Eagle 2008, the U.S. frigate *Elrod* trained with Russian and Norwegian forces in the Barents Sea.¹³ However, it is important to note that these activities remain to a large extent bilateral or multilateral exercises, by invitation only, and not NATO-sanctioned exercises.

Norway has actively taken the lead in calling for the increased engagement of NATO in the High North by arguing for more emphasis on the alliance's core functions. It has recently launched an initiative to ensure that NATO continues to plan for the more traditional task of providing

good shape, the project is currently mired in uncertainty because of continuing failures in testing of the Bulava sea-launched cruise missile with which they are to be equipped.

9. Michael Byers, "Russian Bombers a Make-Believe Threat," *Toronto Star*, August 30, 2010, <http://www.thestar.com/opinion/article/854197--russian-bombers-a-make-believe-threat>.

10. "Russian Warplanes Breach NATO Airspace," *USA Today*, September 14, 2007, http://www.usatoday.com/news/world/2007-09-14-nato-russia_N.htm.

11. RIA Novosti, "4 NATO Jets Trail 2 Russian Bombers over Arctic, Atlantic," March 12, 2010, <http://en.rian.ru/russia/20100312/158173474.html>.

12. The full program of "Security Prospects in the High North" can be found at http://www.mfa.is/media/MFA_pdf/PROGRAMME_29_JANUARY.pdf.

13. Andrew Scutro, "Navy Preps for Uncharted Arctic Waters," *NavyTimes*, November 24, 2009, http://www.navytimes.com/news/2009/11/navy_arctic_TUES_112409w/.

stability and security within the Euro-Atlantic region. According to former Norwegian defense minister Grete Faremo, “[W]e are not calling for a permanently high level of NATO presence in the North, such as there was during the Cold War. What we would wish to see first and foremost is an awareness of potential security challenges which is reflected in Alliance planning, information exchange and exercise

The USS *Alexandria* submerges during the biennial ICEX exercise.



Source: Wikimedia Commons.

activities.”¹⁴ More concretely, Norwegian officials have proposed that NATO serve as an arena for building situational awareness and knowledge among allies, provide capabilities in surveillance and monitoring, coordinate search and rescue, and protect critical infrastructure on allied territory. The priority would be to preserve the current stability in the Arctic as a region of low tension. But Norway, among other NATO member nations, is also acutely aware of the necessity of improving communication and coordination with Russia if NATO is to succeed as a more active player in the Arctic.

Russia, which covers 50 percent of the circumpolar area, is very skeptical of—if not outright hostile to—an increased security role for NATO in the Arctic. In November 2011, Russian Foreign Minister Sergei Lavrov offered the clearest articulation yet of Russia’s position vis-à-vis NATO in the Arctic: “Decisions about the conduct of affairs in the Arctic are taken by the ‘Arctic’ countries, that is, those who are members of the Arctic Council, including Russia and Iceland ... any problems should be solved on the basis of the UN Convention on the Law of the Sea and the decisions of the Arctic Council. There are no reasons for drawing NATO into Arctic affairs.”¹⁵ Publicly, Russia has advocated enhanced international cooperation without a military component, arguing that

14. Norwegian Ministry of Defense, “Capable and Ready for Action—Norway’s Armed Forces 2010” (address delivered by Norwegian defense minister Grete Faremo to the Oslo Military Society on January 4, 2010), http://www.regjeringen.no/en/dep/fd/aktuelt/taler_artikler/ministeren/taler-og-artikler-av-forsvarsminister-gr/2010/Capable-and-ready-for-action--Norways-armed-forces-2010.html?id=591655.

15. Ministry of Foreign Affairs of the Russian Federation, “Opening Remarks and Answers by Russian Foreign Minister Sergey Lavrov at Press Conference Following Talks with Icelandic Foreign Minister Ossur Skarphedinsson,” Moscow, November 29, 2011,” http://www.mid.ru/brp_4.nsf/0/910EA870582BC0F344257959001DACE9.

the Arctic “is a zone of peaceful and economic cooperation,”¹⁶ while simultaneously increasing its combat capabilities “in accordance with the Russian Armed Forces’ plan of strategic deterrence . . . aimed to demonstrate military presence in the Arctic.”¹⁷ This dual-track approach, which blends cooperative international diplomacy with an enhanced security posture, is designed to protect Russia’s economic interests and ensure its future strategic relevance on the global stage.

Clearly, large parts of the Russian political, military, and academic elites still view the United States and NATO as a threat—“угроза”¹⁸—to Russia’s security and as a result are suspicious that increased NATO activity is part of a “broad anti-Russian agenda . . . aimed at undermining Russia’s positions in the region and bolstering America’s and NATO’s standing.”¹⁹ Russia’s concerns about NATO are exacerbated by the lack of agreement between NATO and Russia on the European Phased Adaptive Approach missile defense architecture. Because Russia has enhanced its Arctic military capabilities sufficiently to retain “necessary combat potential,”²⁰ NATO Supreme Allied Commander Admiral James Stavridis stated in October 2009 that Russia’s “assertive conduct in the Arctic and the muscle-flexing” were among the factors “grabbing the attention of increasingly wary NATO leaders.”²¹

A New Role for NATO in the Arctic?

In light of both its treaty responsibilities and the NATO-Russia dynamic in the Arctic, NATO could support the growing security challenges in the region in additional ways by serving as a forum for dialogue. Because no multinational legal structure currently exists in which regional stakeholders can discuss Arctic security, NATO could fill that key gap by convening Arctic nations that are either NATO members or partner countries as well as organizations and key stakeholders to share information on climate change assessments, search-and-rescue operations, preparedness, science, and maritime disaster response. NATO could partner with Russia on missions of scientific exploration to map the Arctic seabed, study weather patterns, and evaluate and predict the movement of fishing stocks due to the effects of climate change. NATO’s Science for Peace and Security Program²² provides a springboard for collaboration in areas of mutual interest. The information

16. “Russia ‘Concerned’ by NATO Activity in Arctic,” RIA Novosti, quoting President Dmitry Medvedev, September 15, 2010, <http://en.rian.ru/russia/20110706/165057023.html>.

17. “Russia Increases Combat Capabilities in Arctic,” RIA Novosti, quoting Russian Navy Commander Admiral Vladimir Vysotsky, October 2, 2010, <http://en.rian.ru/russia/20101002/160804543.html>.

18. Paragraph 8 of the Russian National Security Strategy defines “the failure of the existing global and regional architecture, oriented—especially in the Euro-Atlantic region—only on the North Atlantic Treaty Organization” as being “a threat to ensuring international security.” *Sovet Bezopasnosti Rossiyskoy Federacii, Strategiya nacionalnoy bezopasnosti Rossiyskoy Federacii do 2020 goda* [The national security strategy of the Russian Federation until 2020], released May 13, 2009, <http://www.scrf.gov.ru/documents/1/99.html>.

19. Katarzyna Zysk, “Geopolitics in the Arctic: The Russian Security Perspective,” in “The Arctic,” *Climate of Opinion* 12 (March 2009), http://www.stockholm-network.org/downloads/publications/Climate_of_Opinion_12.pdf.

20. The National Security Strategy of the Russian Federation until 2020, May 13, 2009.

21. John Vandiver, “NATO Commander Sees Arctic Seabed as Cooperative Zone,” *Stars and Stripes*, October 10, 2009, <http://www.stripes.com/news/nato-commander-sees-arctic-seabed-as-cooperative-zone-1.95541>.

22. The Science for Peace and Security Program supports practical cooperation in civil science and innovation by linking science to society. The aim of the program is to contribute to security, stability, and

collected through joint scientific missions could augment the current knowledge base and thus strengthen the international community's ability to address the evolving challenges in the Arctic.

In recent years, declassification of NATO documents from the Cold War has opened up access to a wealth of "new" data collected by icebreakers dredging the bottom of the polar sea, flights over the Arctic Circle, and seismic profiling. This information has been added to a pool of data that might be sufficient to form the foundation of newly designed internationally recognized maps of the Arctic regions. Currently, the degree of variance between each country's Arctic maps results in confusion, contention, and instances of physical collision. Further declassification of NATO Cold War documents, especially those with hydro-mapping results, could contribute to safer passage in the Arctic waters. In fact, some efforts at information sharing have already proved beneficial. Recently declassified Soviet charts from the Cold War era that mapped the Canadian Arctic have proven in some cases to be more detailed and accurate than maps drawn by the Canadians themselves.²³ NATO's satellite imagery capability could provide needed data for science, particularly for weather forecasting, disaster prevention, and environmental impact assessment.²⁴

NATO could also enhance its coordination role in maritime disaster response and consequent management activities in the Arctic by engaging its Euro-Atlantic Disaster Response Coordination Centre.²⁵ This effort would support Arctic search-and-rescue and oil spill response operations and seek to maximize emergency response capabilities and minimize response time. As the Arctic becomes increasingly navigable, the spike in shipping and ecotourism through these Arctic transit corridors will require robust monitoring systems to improve maritime safety and security. The most significant threats involve nonstate actors such as "drug smugglers, gunrunners, illegal immigrants or even terrorists who might take advantage of ice-free Arctic waters to move contraband or people between the Pacific and Atlantic Oceans or into North America or Europe."²⁶ The maritime monitoring experience that Russia and NATO have gained through their counter-piracy operations, as well as NATO's Operation Active Endeavor in the Mediterranean, could form the basis of a multinational monitoring system that shares information, technology, and capabilities. Finally, NATO could potentially serve as a resource for joint military training, defense procurement and acquisition, and contingency planning in the Arctic. The goal would be to maintain "a military presence that is sufficient to act as a stabilizing factor in conceivable crisis scenarios but without undermining stability through provoking short term and long term counter measures and

solidarity among nations by applying the best technical expertise to problem solving. For more information, visit the official Science for Peace and Security page at <http://www.nato.int/science/index.html>.

23. Canadian Press, "Soviets as Familiar with Canadian Arctic as Canada?" *Alaska Dispatch*, December 7, 2011, <http://www.alaskadispatch.com/article/soviets-familiar-canadian-arctic-canada>.

24. Felix Koran et al., ed., *Use of Satellite and In-Situ Data to Improve Sustainability* (New York: Springer, 2010).

25. The Euro-Atlantic Disaster Response Coordination Centre is a "24/7" focal point for coordinating disaster relief efforts among NATO member and partner countries. The center has guided consequence management efforts in more than 45 emergencies and also functions as an information-sharing tool for NATO and partner countries on disaster assistance. For more information about the center, visit <http://www.nato.int/eadrcc/>.

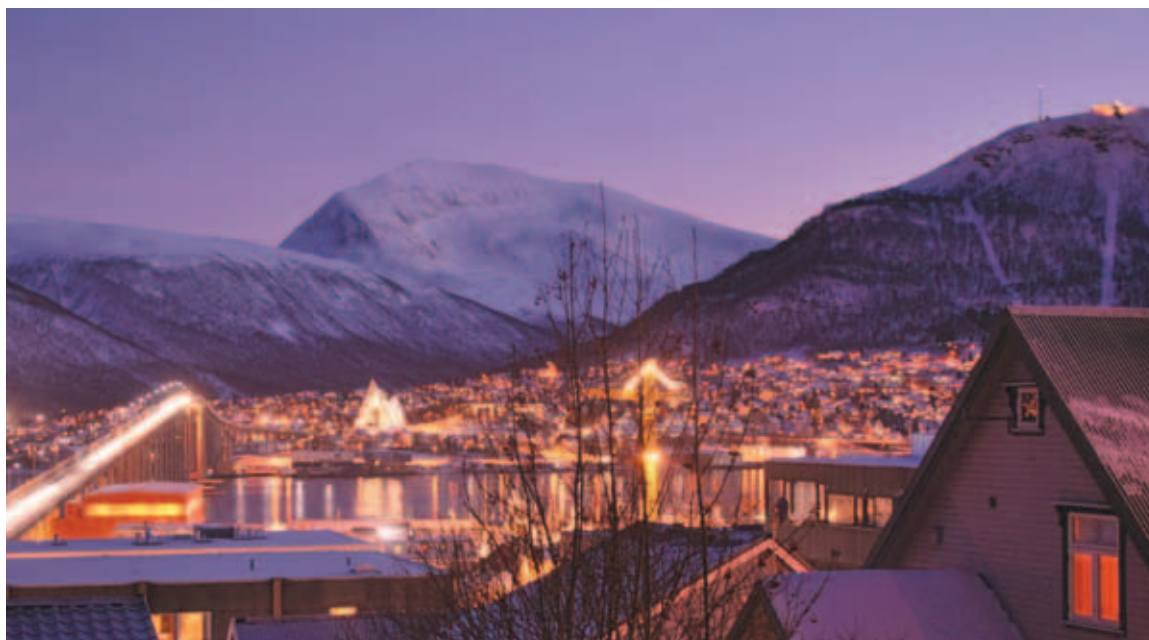
26. Michael Byers, "Conflict or Cooperation: What Future for the Arctic?" *Swords and Ploughshares: Global Security, Climate Change, and the Arctic* 17, no. 3 (Fall 2009): 19, <https://www.ideals.illinois.edu/bitstream/handle/2142/15118/Global-Security-Climate-Change-and-the-Arctic.pdf?sequence=2>.

the ensuing escalation of general tension.”²⁷ However, due to Russian opposition and the lack of alliance consensus it seems unlikely that NATO could take such a proactive role.

The Role of the Arctic Council

If NATO is not the right security framework for the Arctic, what alternative security frameworks ought to be considered? As discussed above, while the Arctic Council is an established institution dealing with Arctic affairs, it lacks the ability to address “matters related to military security.”²⁸ The Arctic Council should continue to serve as the central forum for dialogue and multilateral cooperation on key issues such as the environment, shipping, and emergency response, while deepening its working relationships with the International Maritime Organization, the Arctic Military Environmental Cooperation project, and other organizations working on Arctic issues. The Arctic Council has shown growing impact through such seminal projects as the *Arctic Marine Shipping Assessment Report 2009*,²⁹ which contains recommendations that should be used as a template for implementing international policy in the region.

Noon during the polar night in Tromsø, Norway.



Source: Wikimedia Commons. Photo by Osopolar.

27. Sven G. Holtsmark, “Towards Cooperation or Confrontation? Security in the High North,” NDC Research Papers 45, NATO Defense College, Rome, 2009, 11, http://kms1.isn.ethz.ch/serviceengine/Files/ISN/97586/ipublicationdocument_singledocument/b97c0503-c2e1-40d2-a4e8-e4ece0fc0da1/en/rp_45en.pdf.

28. This clause in the “Declaration on the Establishment of the Arctic Council” was added at the insistence of the United States.

29. The product of the Protection of the Arctic Marine Environment working group of the Arctic Council represents a four-year effort to consider and review all aspects of Arctic shipping. It includes documentation of shipping activities from a baseline year (2004) and future projections in key areas such as environmental protection, marine infrastructure, human dimensions, and governance. See Arctic Council, *AMSA 2009 Report*, <http://www.pame.is/amsa/amsa-2009-report>.

Although the council does not have an international security mandate (and it is highly unlikely that members would agree to expand its mandate), on April 29, 2009, Arctic Council ministers meeting in Tromsø, Norway, established a task force to develop a legally binding instrument for cooperation on search and rescue in the Arctic, using the council as a negotiating framework. As cochairs of the task force, Russia and the United States have been working cooperatively through two rounds of negotiations to produce a joint Arctic agreement on search and rescue; it was signed in May 2011 but has yet to go into force. It is hoped that the agreement will encourage the member states to develop multilateral exercises and improve joint training and interoperability, yet it is unclear how the parties to the agreement will actually go about implementing it. Because implementation and management of a search-and-rescue framework will require military-to-military exchanges that are beyond the scope of the Arctic Council, where do these activities take place?

Filling the Void: An Innovative Security Architectural Design

No one institution or framework meets the growing security needs of the Arctic and effectively brings all state and nonstate actors together in a coherent structure. Norway, the United States, and others are searching for ways to fill this security void while also ensuring strong international cooperation in the Arctic by emphasizing sharing practical information on future environmental forecasts and evolving Arctic capabilities as countries adjust their security postures to a transforming Arctic. This search, however, has produced uneven results. In the spring of 2011, a meeting was held in Oslo, Norway, supported by the U.S. Defense Department's Defense Environmental International Cooperation program, the U.S. European Command, and the Norwegian Defense Staff. This meeting brought together the Arctic coastal states plus four additional NATO members (France, Germany, the Netherlands, and the United Kingdom) as a first-of-its-kind meeting to discuss issues related to Arctic security. Many of the countries invited to attend the Oslo meeting were hesitant about the purpose of the meeting, uncertain about what security information to share and with whom to share it. It was also clear that Arctic nations have varied and at times incompatible security and organizational jurisdictions over their Arctic territory. For example, protecting the security of the Russian Arctic coastline is the responsibility of the FSB, Russia's Federal Security Service. For the United States, the U.S. Coast Guard has primary responsibility for maritime safety, security, and stewardship. For Iceland, a country that does not have a military, the Ministry of Foreign Affairs is responsible for security. With such disparate organizations, it is very difficult either to shape an agenda or to reach productive outcomes. However, this meeting was an important first step in filling this security framework vacuum. It is hoped that a second meeting will be held in the summer of 2012 to continue the dialogue.

One recommendation for combating such organizational disparity would be to create an integrated structure for coordinating information and the operations of Arctic nations' coast guards; it would be formed from two existing structures—the North Atlantic Coast Guard Forum (NACGF) and the North Pacific Coast Guard Forum (NPCGF)—and be called the Arctic Coast Guard Forum (ACGF). Both forums are voluntary and nonbinding and work within existing legal frameworks. The NPCGF, the more established of the two forums, was created in 2000 at the behest of the Japan Coast Guard to facilitate dialogue and information sharing on a range of issues from

fisheries enforcement to illegal drug and migrant trafficking.³⁰ With six members (Canada, China, Japan, Russia, South Korea, and the United States), the NPCGF meets semi-annually at the expert and principal level and is hosted by the members on a rotating basis. Since 2004, the NPCGF has conducted tabletop exercises, and in 2005, the NPCGF held at-sea combined operations that included Chinese, Japanese, Russian, and U.S. vessels. The NPCGF has a rotating secretariat and consists of six working groups— illegal drug trafficking, illegal immigration, maritime security, fisheries, information sharing, and combined operations; each group is led by a member.³¹

The NACGF, in contrast, is a more recently created forum (in 2007) and a more unwieldy membership, with 20 nations involved (Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, the United Kingdom, and the United States).³² The NACGF meets semi-annually at the expert and principal level. While the NACGF was active with the Arctic agenda from 2007 to 2010, it has not yet returned to the forefront. Like the North Pacific Coast Guard Forum, the NACGF has conducted exercises, but unlike the NPCGF, the North Atlantic Coast Guard Forum has yet to achieve operational success.

An Arctic Coast Guard Forum should initially consist of Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the United States—the eight Arctic Council members. However, consideration should be given to countries that would be willing and able to deploy assets to assist in maritime security and search-and-rescue operations. The ACGF should focus first and foremost on information sharing yet should also seek to develop methods of cooperation in support of the Arctic Council's search-and-rescue agreement and future international oil spill response agreement. Because the U.S. Coast Guard has increased its cooperation and burden sharing with its coast guard counterparts of neighboring states, annual tabletop and at-sea operational exercises should be conducted, perhaps in conjunction with existing annual exercises such as the Canadian-hosted Operation Nanook exercise.³³ For example, in March 2010, the U.S. Coast Guard participated in a two-day tabletop exercise, titled 2010 CANUSNORTH, to practice a joint response to an oil spill on the U.S.-Canadian border in the Arctic. Joint training and contingency planning exercises will be central to improving cooperation and interoperability. The Coast Guard's responsibilities will continue to expand in the Arctic to include increased search-and-rescue operations, vessel monitoring and domain awareness, icebreaking, and protecting natural resources. It is imperative, however, that the international community establish an organizational framework with the power to coordinate the coast guard³⁴ activities of an expanded network of Arctic stakeholders willing to contribute the resources and capabilities necessary to ensure safety in the Arctic.

Yet uniquely distinct from the construct of the NPCGF and the NACGF, an Arctic Coast Guard Forum must allow for extensive interaction and information sharing with the private sector, be it the global shipping industry, the cruise ship industry, or the oil and gas sector. The experience of the U.S. Coast Guard and its limited Arctic capabilities and assets has forced it to rely on

30. "North Pacific Coast Guard Forum," Canadian Coast Guard, <http://www.ccg-gcc.gc.ca/e0007869>.

31. *Ibid.*

32. *Ibid.*

33. U.S. GAO, "Coast Guard: Efforts to Identify Arctic Requirements Are Ongoing"

34. The author recognizes that responsibility for Arctic activities is not necessarily concentrated within a Coast Guard structure, as is the policy in the United States, and differs from country to country. Therefore, this organizational framework will be tasked with the coordination of each Arctic nation's parallel or equivalent governmental structure with responsibility over Arctic affairs.

third-party responders. Private sector engagement with the ACGF would serve as a force multiplier of coast guard activities and capabilities to prevent duplication. As Caitlyn Antrim has put it, “Increased activity in the Arctic need not require each Arctic state to maintain a full spectrum of ships, aircraft, satellites, and observation stations or emergency supplies. Shared awareness of assets, joint planning and training in combined operations would benefit all users of

The Arctic Express is a 169-meter ice-going container vessel owned by Norilsk Nickel.



Source: Flickr: Arctic Express, photo by Tom Thiel. Licensed under Creative Commons.

the Arctic in providing combined aid and assistance.”³⁵ It would organize joint training exercises with the private sector to improve interoperability, coordinate contingency planning, and set up intelligence-sharing systems. Private sector capabilities are a critical asset, the importance of which cannot be underestimated. For instance, Russia’s most modern icebreakers are the property of Norilsk Nickel, Russia’s largest mining and metallurgy company. Norilsk Nickel maintains complete independence from the state’s military nuclear icebreaker fleet.³⁶ Similarly, Shell Oil is also building its own icebreakers to operate in the Beaufort and Chukchi Seas, spending about \$350 million on two ice-class anchor vessels,³⁷ one of which is almost completed.³⁸

Thule Air Force Base in Greenland—the northernmost U.S. Air Force base 750 miles north of the Arctic Circle and home to a deepwater port, airport, and significant infrastructure—should be closely examined as a potential location of a newly created Arctic center for security coordination. Here, Arctic coastal states, Arctic Council and non-Arctic Council members, and the private sector could coordinate and disseminate information as well as conduct exercises and training. Thule could also serve as a resource to the Arctic Coast Guard Fourm. This general concept was first outlined in the *Kingdom of Denmark Strategy for the Arctic 2011–2020*, under the heading “Thule—Future Arctic Hub and Collaboration Platform?”³⁹

35. Caitlyn Antrim, “The New Maritime Arctic: Geopolitics and the Russian Arctic in the 21st Century,” *Russia in Global Affairs* 8, no. 3 (July–September 2010).

36. Conley and Kraut, *U.S. Strategic Interests in the Arctic*, 9.

37. DeMarban, “Russian Icebreaker to Deliver Fuel to Nome.”

38. Lisa Demer, “Shell to Unveil Icebreaker for Arctic Alaska Offshore Drilling,” *Anchorage Daily News*, December 6, 2011, <http://www.thenewtribune.com/2011/12/05/1933885/shell-about-to-unveil-200-million.html>.

39. Danish Ministry of Foreign Affairs, “Denmark, Greenland and the Faroe Islands,” 54.

With approval from Danish and Greenland authorities, Thule Air Force Base and its surrounding land could be used for training and exercising in close cooperation with NATO's existing Cold-Weather Center of Excellence in Bodø, Norway. Use of the base in Thule also would have the added benefit of supporting existing U.S. infrastructure in the Arctic but could be supplemented by participating states and the private sector. The center would not be sanctioned by NATO or the Arctic Council. Governments and the private sector could contribute to its establishment, and a significant portion of the U.S. contribution could be in in-kind facilities and staff at Thule.

The Role of Non-Arctic States

While Arctic coastal states will play a dominant role in the Arctic, non-Arctic states that benefit from Arctic hydrocarbons and ice-free shipping routes will also seek a role. China, in particular, has focused financial, scientific, and political capital in the Arctic. As the world's largest shipping nation, with 46 percent of gross domestic product⁴⁰ derived from the shipping industry, China is aware that any changes to world shipping routes will have "a direct impact on [its]...economy and potential trade with respect to both imports and exports."⁴¹ China is concerned that "the advantage of the Arctic routes would substantially decrease if Russia were to unilaterally charge exorbitant service fees for ships passing through its EEZ waters"⁴² and thus is advocating strong international cooperation within multilateral governing structures. In response to future Arctic opportunities, China has built the world's largest non-nuclear-powered icebreaker, *Xuelong* (Snow Dragon), which has completed four scientific expeditions to the Arctic Circle to conduct oceanographic surveys and scientific research.⁴³ In September 2010, the Polar Institute of China concluded an agreement on polar research cooperation with the Norwegian Polar Institute, to which China will contribute advanced instruments and laboratories, and will build a research center and a new ice-class research vessel.⁴⁴ China has already engaged Canada in bilateral meetings to confront potential issues that could arise from the changing Arctic environment; it is also eager to build relations with the Nordic countries in hopes of establishing cooperation between Chinese and Norwegian companies in extracting Arctic energy resources.

China is making long-term investments to improve its position politically and economically and is building the largest foreign embassy in Reykjavik in "anticipation of Iceland becoming a major shipping hub."⁴⁵ All these efforts reflect a broader Chinese strategy to ensure that China will not be excluded from access to the Arctic. According to Chinese professor Guo Peiqing of the

40. Joseph Spears, "China and the Arctic: The Awakening Snow Dragon," *China Brief* 9, no. 6 (March 18, 2009), [http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews\[tt_news\]=34725&cHash=9638471049](http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews[tt_news]=34725&cHash=9638471049).

41. *Ibid.*

42. Linda Jakobson, "China Prepares for an Ice-Free Arctic," *SIPRI Insights on Peace and Security*, no. 2010/2 (March 2010): 12, <http://books.sipri.org/files/insight/SIPRIInsight1002.pdf>.

43. Xinhua News, "Icebreaker Xuelong Ends Arctic Scientific Expedition," August 31, 2010, http://news.xinhuanet.com/english2010/china/2010-08/31/c_13471545.htm.

44. Trude Pettersen, "Norwegian-Chinese Cooperation on Polar Research," *BarentsObserver*, September 10, 2010, <http://www.barentsobserver.com/norwegian-chinese-cooperation-on-polar-research.4817705-16149.html>.

45. Robert Wade, "A Warmer Arctic Needs Shipping Rules," *Financial Times*, January 16, 2008, <http://www.ft.com/intl/cms/s/0/1c415b68-c374-11dc-b083-0000779fd2ac.html>.

Ocean University of China, “Circumpolar nations have to understand that Arctic affairs are not only regional issues but also international ones.”⁴⁶

Other noncoastal states have begun engagement in the evolving political and economic dynamics of the Arctic. India, which views itself a stakeholder in the region by virtue of having signed the Svalbard Treaty in 1920 as a British protectorate, established a scientific research station, Himadri, at Ny-Ålesund, Norway in 2007 and has since “undertaken seven expeditions to the Arctic and placed orders for a dedicated vessel for polar expedition.”⁴⁷

China, Japan, and South Korea have also set up scientific research stations at Ny-Ålesund, Norway (in 2004, 1990, and 2002, respectively),⁴⁸ expressing interest in environmental programs and transportation and clearly articulating the value of joining the discussion at the Arctic Council as “observers.” All three countries have their own icebreakers and are constantly stressing the “international nature” of the Arctic, declaring the region “the common heritage of mankind.”⁴⁹ (This view conflicts with that of the Arctic coastal states and institutions such as the Arctic Council, which limits membership to the five coastal states plus Finland, Iceland, and Sweden.)

South Korea is also investing in liquefied natural gas facilities in Inuvik, Canada,⁵⁰ while China will conduct its fifth Arctic expedition in early July 2012.⁵¹ All three states have Arctic research institutions (the Japanese National Institute of Polar Research, the Korea Polar Research Institute, and the Chinese Arctic and Antarctic Administration, which is affiliated with the State Oceanic Administration of China). The mission of the South Korean institute is to “to sustain Korea as an active and influential regional presence with a leadership role in polar affairs.”⁵²

46. Jakobson, “China Prepares for an Ice-Free Arctic,” 12.

47. Vijay Sakhuja, “The Arctic Council: Is There a Place for India,” policy brief, India Council of World Affairs, July 2, 2010, <http://www.icwa.in/pdfs/finlandnorwayarcticcouncil.pdf>.

48. Kings Bay, Research stations in Ny-Ålesund, February 7, 2011, http://www.kingsbay.no/index.php?option=com_content&id=127&Itemid=118/.

49. Vlad M. Kaczynski, “Russia’s Arctic Development,” *REECAS Newsletter* (Winter 2011), <http://depts.washington.edu/jsishelp/ellison/2011/winter/Kaczynski>.

50. Nathan Vanderklippe, “South Koreans Eye Arctic LNG shipments,” *Globe and Mail*, April 19, 2011, <http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/south-koreans-eye-arctic-lng-shipments/article1991882/>.

51. “China to Launch 8 Antarctic, Arctic Expeditions,” *China Daily*, September 25, 2011, http://www.chinadaily.com.cn/china/2011-09/25/content_13788608.htm.

52. Korea Polar Research Institute website, “Vision and Mission,” http://www.kopri.re.kr/index_eng.jsp.

6

CONCLUSION

The complexity and value of the Arctic drive home the importance of careful and well-planned international coordination in this rapidly changing region. However, in examining the drivers of the new Arctic security environment, the existing structures of Arctic governance, and U.S. security strategy in the Arctic, we find more questions than answers. If NATO can play only a supportive but limited role in the Arctic security domain, if the Arctic Council cannot modify its mandate to address security issues, if non-Arctic nations beyond membership in NATO and the Arctic Council will play an increasingly active role in the Arctic, and if governments will rely heavily on the Arctic assets and resources of the private sector in the future, where do all these Arctic actors and interests come together?

As the polar ice cap melts, what is clear is that the United States and the international community are underprepared to address the growing economic dynamics of the Arctic; these dynamics will demand innovative thinking as a new Arctic security environment begins to take shape. Such innovation requires a whole-of-government approach toward the region and mandates a multifaceted and multilateral cooperative approach in scientific understanding, resource development, environmental management, and security. At the moment, the international community is relying on a “multilateral, multi-stakeholder approach,”¹ a term used by Deputy Secretary of State James Steinberg to underscore the various forms of multilateralism used by organizations like the Arctic Council to meet the evolving challenges of the Arctic. Today, we know that the best multilateral path forward for Arctic security will consist of the Arctic Council and NATO, as well as innovation in the form of a newly established Arctic Coast Guard Forum. This Forum will consist of the eight Arctic Council nations and include a center for Arctic security coordination, possibly located at Thule Air Base in Greenland.

1. James Steinberg, “U.S. Strategic Interests in the Arctic” (address at CSIS conference, “U.S. Strategic Interests in the Arctic,” Washington, D.C., April 28, 2010), <http://csis.org/multimedia/video-us-strategic-interests-high-north-keynote-deputy-secretary-state-james-steinberg>.



ABOUT THE AUTHORS

Heather A. Conley is director and senior fellow of the Europe Program at the Center for Strategic and International Studies (CSIS). Before joining CSIS, she served as senior adviser to the Center for European Policy Analysis, an independent, nonpartisan public policy research institute dedicated to the study of Central Europe. From 2005 to 2008, Ms. Conley served as the executive director, Office of the Chairman of the Board of the American National Red Cross, where she focused her efforts on developing the first comprehensive reform to the governance structure of the American Red Cross Board since 1947, incorporating best governance practices for nonprofit and for-profit sectors. From 2001 to 2005, Ms. Conley served as deputy assistant secretary of state in the Bureau for European and Eurasian Affairs, with responsibilities for U.S. bilateral relations for the 15 countries of northern and Central Europe. Previously, she was a senior associate with an international consulting firm led by former U.S. deputy secretary of state Richard L. Armitage. Ms. Conley began her career in the Bureau of Political-Military Affairs at the U.S. Department of State, where she served as the State Department liaison for the U.S. Department of Defense's Global Humanitarian Assistance Program. Following the collapse of the Soviet Union, Ms. Conley was selected to serve as special assistant to the U.S. coordinator of U.S. assistance to the newly independent states of the former Soviet Union. Ms. Conley received her B.A. in international studies from West Virginia Wesleyan College and her M.A. in international relations from the Johns Hopkins University Paul H. Nitze School of Advanced International Studies.

Terry Toland is the research associate for the Europe Program at CSIS, where he conducts research and organizes program activities on European political, security, and economic issues. Previously, he had served as a research intern in the CSIS Human Rights and Security Initiative. Before joining CSIS, Mr. Toland completed internships at the German Marshall Fund office in Berlin and the British House of Commons in London, where he focused on transatlantic relations, combating human trafficking, and monitoring political extremism. He had four years of professional experience in academic publishing while working for Yale University Press. Mr. Toland graduated magna cum laude from Clark University with a B.A. in international relations and a concentration in holocaust and genocide studies. He received his M.A. in international relations and international economics from the Johns Hopkins University Paul H. Nitze School of Advanced International Studies.

Jamie Kraut is currently pursuing a Master of Arts in Law and Diplomacy at the Fletcher School, with a dual concentration in International Security Studies and Public International Law. Ms. Kraut previously served as the research assistant in the CSIS Europe Program, where she conducted research and coordinated program activities on U.S.-European political, security, and economic relations. While living abroad in Paris, she studied contemporary European politics at the Sorbonne and worked at the U.S. Embassy Paris in the Office of Defense Cooperation (ODC), con-

tributing to projects reviewing Franco-American defense and security cooperation and organizing the official U.S. delegation to the 2007 Paris Air Show. Previously, she interned in the arms control division at the Defense Threat Reduction Agency (DTRA), Department of Defense, at Fort Belvoir, preparing for the UN Programme of Action to Prevent, Combat, and Eradicate the Illicit Trade in Small Arms and Light Weapons 2006 Review Conference. Ms. Kraut graduated magna cum laude from Tufts University with a B.A. in International Relations and French.

Andreas Østhagen is an advisor at North Norway European Office in Brussels, which represents the political leadership of North Norway in Norway's relationship with the European Union. Mr. Østhagen focuses on the development of a European policy for the Arctic region, European Union energy and raw materials policies, and the EU relationship to Russia. In addition, Mr. Østhagen is employed part time by the Norwegian Institute for Defense Studies (IFS), contributing to the energy work package under the "Geopolitics in the High North" research project. He worked as a research intern at the Europe program at CSIS in the summer of 2011. Mr. Østhagen holds a master's degree in European international relations from the London School of Economics and a bachelor's degree in political economy from the Norwegian University of Science and Technology.

CSIS | CENTER FOR STRATEGIC &
INTERNATIONAL STUDIES

1800 K Street, NW | Washington, DC 20006

Tel: (202) 887-0200 | Fax: (202) 775-3199

E-mail: books@csis.org | Web: www.csis.org

