

Global Efforts on Issues Concerning the Arctic: Implications Regarding Security*

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Abstract

Since access to seabed resources will become easier due to the melting of sea ice in the Arctic Ocean, Russia and other coastal nations have commenced seafloor surveys to claim an extension of their respective continental shelves, as well as taken steps to strengthen their military postures in the Arctic sea area for securing maritime rights and interests. The opening of the Northern Sea Route (NSR) will connect East Asia and the West and increase maritime access. This is expected to change global maritime freight activity and the supply-demand balance of resources, and in turn transform the energy strategy of each country. At the same time, it is anticipated that the maneuverable area of each country's naval force will expand, altering the military balance in each region.

Most of the NSR is in the sea area under Russian control and, at its eastern starting point, there are the Sea of Okhotsk and the Northern Territories. To enter the Sea of Okhotsk and approach Sakhalin and Vladivostok, the Bering Sea and other straits including the Etorofu Kaikyo must be transited to sail through the Kuril Islands. It is therefore of strategic importance for Russia to secure the right of free passage through the Etorofu-Urup Strait. When China's icebreaker "Xue Long" headed for the fifth Arctic expedition in 2012, Russia conducted large-scale military drills off Sakhalin as well as in the Sea of Okhotsk, which are construed by some as checks on China. China, for its part, has been increasing its energy imports using the NSR. With emphasis placed on the sea route up to the transit point of the Bering Sea, the sea area of operations of the Chinese Navy, including its submarines, may possibly expand into the Bering Sea.

At the Japan-Russia Foreign and Defense Ministerial Conference ("2+2") in November 2013, the two sides agreed to hold joint counter-terrorism and anti-piracy drills between Japan's Maritime Self-Defense Force and the Russian Navy. It is expected that in the future, joint search and rescue operations in the Arctic Ocean will also be conducted. As the Sea of Okhotsk serves as a sea line of communication when vessels sail to the Arctic Ocean from Northeast Asia, it is necessary to establish Japan-Russia search and rescue arrangements in the Okhotsk Sea area. In May 2013, it was agreed that by mid-2020, Japan and Russia would start joint exploration of resources in the oil fields in the Sea of Okhotsk off the coast of Magadan. Given that the strategic importance of the Sea of Okhotsk will increase for both Japan and Russia, both countries must consider collaboration on surveillance activities in this sea area.

The Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic, a treaty entered into by the Arctic Council in 2011, is the only relevant multilateral arrangement. Looking ahead to the activities in the Arctic Ocean, it is imperative that Japan is also proactively

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involved in the treaty. Particularly, for search and rescue in the periphery of the Bering Sea, exchange of information and joint drills from peacetime with Canada and Russia, aside from the United States, are desirable. A heightened presence of the Russian and Chinese Navies for command of the sea in the Arctic Ocean will require the United States to supplement its presence in the Arctic Ocean with parts of its Pacific Fleet force. Such cases are anticipated to have implications for Japan's defense posture as well, including the northward expansion of the sea area subject to surveillance activity, changes to the deployment of submarines, or otherwise.

Introduction

Rising concerns about climate change caused by global warming have created an impetus to examine climate change's effects on security. In particular, the melting of sea ice in the Arctic Ocean is expected to facilitate access to seabed resources. This has prompted coastal nations to commence seafloor surveys to claim an extension of their respective continental shelves, as well as to take steps to strengthen their military postures in the Arctic sea area for securing maritime rights and interests. If, in the future, the Northern Sea Route (NSR) opens, it will connect East Asia and the West and increase maritime access. This is expected to change global maritime freight activity and the supply-demand balance of resources, and in turn transform the energy strategy of each country. At the same time, it is anticipated that the maneuverable area of each country's naval force will expand, altering the regional military balance. In light of such a situation, this paper examines how the Arctic Council (AC) member states as well as other major countries including Asian countries are addressing the issues concerning the Arctic, mainly from a security point of view.

1. The Main Issues Concerning the Arctic

(1) Climate change

The dramatic changes the Arctic Ocean is witnessing lead not only to environmental damage, but also to intense interstate disputes in the region. The five countries in the Arctic have strengthened their claims to territorial rights in the Arctic Ocean, and are scrambling to apply to the United Nations (UN) for an extension of their continental shelf. One of the reasons for this is that the Arctic seabed is estimated to hold 13% of undiscovered oil and 30% of undiscovered natural gas. What predictions can be made about the natural environment of the Arctic Ocean?

In its October 2010 Arctic Report Card, an annual report regarding changes in the Arctic, the National Oceanic and Atmospheric Administration (NOAA) announced that the Arctic is experiencing warming air and ocean temperatures and summer sea ice cover is decreasing, making it highly likely that the Arctic will not return to previous cold conditions. It is said that carbon dioxide (CO₂) is the chief cause of global warming, but what is less said is that alkaline seas absorb CO₂ and acidify. This absorption is further accelerated in cold waters like the Arctic Ocean.¹ According to the Japan Aerospace Exploration Agency (JAXA), in August 2012 it was found that the Arctic sea ice extent in 2012 reached a record low since measurements began. The sea ice extent shrunk to 4.21 million km² (Guam: approx. 5.50 km²) as of August 24, eclipsing

¹ Roger Harrabin, "Arctic Ocean 'acidifying rapidly,'" *BBC News*, May 6, 2013 <<http://www.bbc.co.uk/news/science-environment-22408341>>.

the previous record of 4.25 million km² set in 2007. The National Snow and Ice Data Center (NSIDC) in the United States has announced that the current pace of sea ice loss in the Arctic is the fastest on record. In September 2012, the NSIDC revealed that Arctic sea ice extent dropped to 3.41 million km², nearly equal to the land area of India. In addition, the NSIDC announced that the sea ice volume set a record minimum for the third consecutive year, decreasing by 80% compared to the FY2000 volume. While not necessarily at this pace every year, glaciers are melting at speeds faster than forecasted. The lowest extent of summer sea ice was recorded on August 26, a whole month earlier than in 2011. Some view that sea ice will disappear by 2020 or 2030.²

In October 2009, Arctic System Science at the University of Manitoba in Canada presented that Arctic sea ice was melting not only due to the warming of the ocean, but also due to the effects of the rays of the sun. It is known that the warming of the Arctic Ocean is proceeding at three times the speed in other regions of the globe. A study conducted in Japan by the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) in 2012 has also shown that as a result of the sea ice retreat, the share of low-level clouds which serve the role of parasol decreased approximately 30% over the last ten years or so. It is deemed that the decrease in low-level clouds which act as a parasol makes sea ice even more susceptible to melting. Thick ice, known as multiyear ice, does not melt, whereas new ice that forms in the winter melts. It is expected that rapid melting of multiyear ice will make Arctic sea ice further vulnerable to retreat during the summer.

Furthermore, the temperature of the North Atlantic current that flows into the Arctic Ocean has been increasing, making it highly likely that the day will come when sea ice disappears from the Arctic in the summer, according to a report of a study's findings. In the Fram Strait between Denmark's Greenland—the end point of the Gulf Stream, and Norway's Svalbard archipelago, the average water temperature in recent summers was 6°C. In contrast, the average in 1890-2007 was 5.2°C and during the preceding 1,900 years was 3.4°C. The report noted that the water temperature exceeds past highs that are linked to changes in solar irradiance, and that global warming is progressing due to human activities.³

These factors that altered the Arctic's natural environment—sea ice retreat due to warming, the effects of the sun's rays, and the current that flows into the Arctic Ocean—may be amplifying global warming synergistically. Although Arctic sea ice will never disappear entirely, there is no question that it will loosen, and it is clear that access will become easier with each passing year. Based on forecasts that summer sea ice will disappear within the next 20 years, it is predicted that free navigation in the Arctic Ocean will become possible during this period.

In early August 2011, the United States approved Shell's development plan for the Beaufort Sea. Soon afterwards, in September 2012, Shell began exploratory drilling of seafloor oil fields in the Chukchi Sea off the coast of North Slope in Alaska. However, in March 2013, the U.S. Department of the Interior ordered the suspension of the drilling on the grounds that environmental protection was not taken into consideration. This, coupled with opposition from nature conservation groups, prompted the U.S. Government to set forth a policy of not permitting

² Charles K. Ebinger and Evie Zambetakis, "The Geopolitics of Arctic Melt," *International Affairs*, Vol. 85, Issue 6, 2009, p. 1216.

³ Nicola Jones, "Arctic Ocean feels the heat," *Nature*, January 21, 2011 <<http://www.nature.com/news/2011/110127/full/news.2011.52.html>>.

resource development without the guarantee of environmental protection.⁴ Depending on the safety measures of petroleum companies and the U.S. Government's decision on environmental measures, resource development in the Chukchi Sea may not make any progress.

(2) Northern Sea Route

The NSR consists of two routes: 1) the Northeast Passage that traverses Russia's coast; and 2) the Northwest Passage that traverses Canada's coast. Navigation of the Northeast Passage is possible usually from around late June to around mid-November for roughly five months. In 2011, 34 vessels sailed through the NSR, with 820,000 tons of cargo transported on the route. Of the cargo, 682,000 tons (15 vessels) were liquid bulk, 110,000 tons (3 vessels) were dry bulk, and 27,500 tons (4 vessels) were frozen salmon.⁵ In addition, in 2011, cargo began to be transported on the westward route from Asia to Europe, including frozen salmon from Kamchatka to Murmansk, as well as jet fuel from the Republic of Korea (ROK) to France. A total of approximately 2 million tons of cargo were transported on the NSR in 2011. The Russian Government estimates that this will increase to 55 to 60 million tons by 2020.

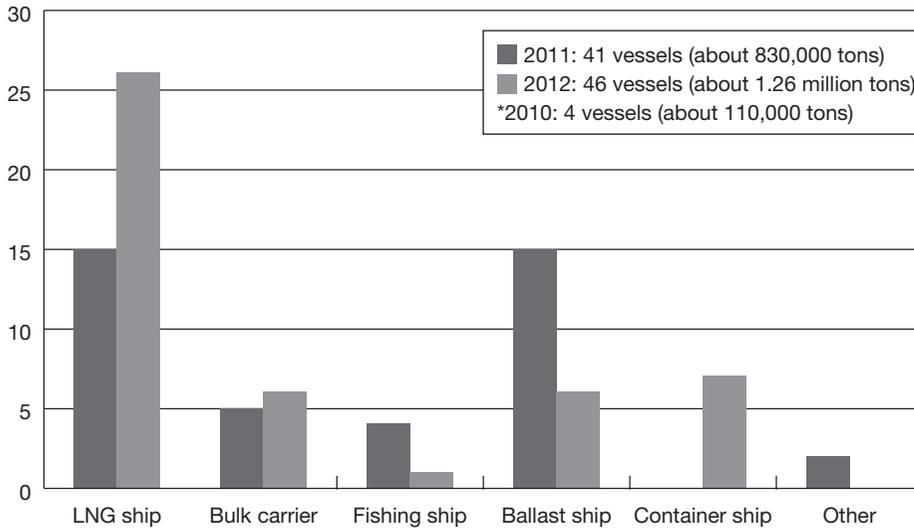
In September 2009, two German freight vessels (MV *Beluga Fraternity* and MV *Beluga Foresight*) led by Russian icebreakers (1 to 2 vessels) became the first commercial ships to successfully sail the NSR from the ROK to Siberia. Both were ice-strengthened vessels (12,700 tons). Since then, the number of vessels sailing along the NSR has increased year by year. Transport of oil-related cargo accounts for a majority of the cargo, with transport volume to Asia being more than double that to Europe. The number of escort requests made to Russian nuclear-powered icebreakers has increased from 4 in 2010 to 15 in 2011. In 2012, the number of vessels sailing the NSR was 35% more than the previous year, while the amount of cargo transported was 53% more than the previous year (Figure 1).⁶ It can be conceived that the number of vessels sailing the NSR increased because its navigable period in summer 2012 was one month longer than in 2011. In November 2012, for the first time, liquefied natural gas (LNG) was transported via the NSR from the Barents Sea in Norway to Japan. In July 2014, Mitsui O.S.K. Lines announced that in 2018, it would begin regular transport service of LNG produced in the Yamal Peninsula in Russia to Europe and East Asia via the NSR. According to Mitsui O.S.K. Lines, this will become the world's first large-scale regular transport service offered along the NSR. A joint venture with China Shipping, a Chinese state-owned enterprise, will operate the service. According to the company, three icebreaker tankers have already been ordered.⁷ In the Yamal Peninsula, LNG development and the construction of liquefaction plants are under way, and commercial production is expected to commence in 2017. President Vladimir Putin held a meeting on the Yamal LNG project in the Yamalo-Nenets autonomous district on September 25, 2013. The President expressed the view that the building of the Sabetta port in the eastern coast of the Yamal Peninsula, which will become the LNG shipping hub, will increase transport volume along the NSR.

⁴ U.S. Department of the Interior, "Review of Shell's 2012 Alaska Offshore Oil and Gas Exploration Program," *Report to the Secretary of the Interior*, March 8, 2013, pp. 16-32.

⁵ Bjorn Gunnarsson, "NSR Transit Voyages in 2011 and 2012 (YTD)," Centre for High North Logistics, p. 6.

⁶ Trude Pettersen, "China starts commercial use of Northern Sea Route," *Barents Observer*, March 14, 2013 <<http://barentsobserver.com/en/arctic/2013/03/china-starts-commercial-use-northern-sea-route-14-03>>.

⁷ *Nihon Keizai Shimbun*, July 9, 2014.

Figure 1 Navigation on the Northeast Passage

Source: Barents Observer website.

In 2011, the NSR saved a medium-sized bulk carrier 18 days on the navigation between Norway and China, according to data from companies that have sailed the Arctic Ocean. A Danish shipping operator reported that it sailed between China and the Arctic at two-thirds the usual cost and using half the required number of days. While limited to the summer, the securing of a shortened transport route by the NSR is expected to increase the chances of more oil and LNG being transported and supplied to Japan from Norway and the United Kingdom, and continued increased shipping using the NSR is anticipated. On the other hand, compared to the NSR, the Northwest Passage is utilized more for cruise navigation but not for maritime transport. Navigation through the Northwest Passage ranged from 15 to 18 vessels every year from 2009 to 2011, marking an increase from previous years.⁸ The southern route has been fully open every year since the melting of the sea ice along the Northwest Passage in September 2010.

The number of vessels sailing the Bering Sea—the gateway to the NSR and the Northwest Passage—has seen a modest increase of about 1.2 times (December 2008). In April 2013, the Kamchatka Border Guard of the Russian Federal Security Service held talks with the 17th District, U.S. Coast Guard (USCG) regarding joint operations to improve cooperative relations, including border security. Simultaneously, Russia has been working on measures to deepen bilateral trust, including visiting Elmendorf Air Force Base and participating in a search and rescue drill at the USCG Training Center, as part of the moves to establish bilateral collaboration arrangements across the Bering Sea.

⁸ 1906-2005 (69 vessels), 2006-2008 (33 vessels), 2009 (18 vessels), 2010 (18 vessels). Michael Byers, "Time to Negotiate the Northwest Passage with the United States," *Policy Opinions*, October 2011, pp. 69-70 <<http://policyoptions.irpp.org/wp-content/uploads/sites/2/assets/po/the-new-normal-majority-government/byers.pdf>>.

(3) Arctic Council

In 1989, a multilateral agreement that espouses the Arctic Environmental Protection Strategy (AEPS) was launched among the Northern Rim Countries (NORCs)⁹. These countries organized meetings regularly to produce actual outcomes. Following this process, in 1996, an intergovernmental forum known as the AC was established. The AC is a multilateral organization comprised of the NORCs, along with permanent observers (POs) and interest groups. The AC, the only political organization concerning the Arctic, compiles treaties such as the United Nations Convention on the Law of the Sea (UNCLOS) as well as those related to marine pollution, climate change, environmental protection, and fisheries, and executes policies. At the time of its founding, member states clearly affirmed that the AC would not address military and security matters. At the meeting in May 2011, it was decided that to qualify as a PO, the country must respect the NORCs' territorial rights and sovereignty, as well as have the intention and capability to contribute to scientific research and environmental protection efforts in the Arctic. Accordingly, issues related to sovereignty over islands, continental shelf boundary demarcation, and military security are never included on the agenda.

Under the AC, a variety of policies have been achieved through international coordination. In the international polar year in 2009, the AC completed the "Arctic Marine Shipping Assessment 2009," a study that looked into the potential of current and future shipping in the Arctic. There are also other examples in which countries that were deemed to have been adversaries were able to coordinate smoothly and unite on matters, such as search and rescue operations, environmental protection, the rights of indigenous populations, science, and public health. As such, the AC is functioning collaboratively and efficiently as an international network concerning the Arctic. The NORCs and other countries have explored sustainable uses and protection of the ocean, while promoting global cooperation on environmental protection and maritime scientific surveys. In view of the increasing navigation in the Arctic Ocean, in May 2013, the NORCs concluded an agreement on oil spill responses. It is a follow-up agreement to the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (Arctic Search and Rescue Agreement) established in 2011. The framework of the NORCs manifested in the AC is evolving into a consultative body for making decisions with legal binding power, in addition to having its previous research and policy coordination functions.

In May 2013, the six countries of Japan, China, the ROK, India, Italy, and Singapore were granted AC membership as POs. At this AC meeting (Kiruna Declaration), the importance of maintaining peace, stability, and constructive cooperation in the Arctic was underscored.¹⁰ While POs have no voting rights, they have the right to join AC meetings and activities. If the criteria are satisfied, POs may submit proposals as well as conduct scientific research in collaboration with Working Groups. Under this framework, the AC is expected to promote further efforts with international coordination at their core. In light of the extent of the sea ice situation's impact on global warming as well as the global use of the NSR and other ripple effects, it is an urgent

⁹ The agreement was signed by Canada, United States, Denmark, Finland, Iceland, Norway, Sweden, and Russia.

¹⁰ The parties to the AC also signed the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic to enhance their capacities for responding to oil discharge incidents in the Arctic Ocean. This Agreement was the AC's second legally binding international treaty following the Arctic Search and Rescue Agreement. *Yomiuri Shimbun*, May 16, 2013.

task to explore more sustainable uses and protection of the marine environment at a more global level. It follows that in the context of international cooperation based on the principles and rules of environmental protection, the AC can become an essential platform that acts as a buffer to issues surrounding the legal status of the whole Arctic Ocean including the NSR, the jurisdiction of periphery coastal nations, and international navigation. To this end, how to harmonize the interests of the NORCs, including the Arctic coastal nations, and POs, and demonstrate the AC’s legitimacy as a policymaking forum, will become major challenges ahead as the AC delves further into the policymaking territory, including treaty preparation.

Figure 2 Overview of the Arctic Council

As of May 2013

Background	Established as a high-level intergovernmental forum based on the Ottawa Declaration (September 1996)	Meetings	<p>(1) Ministerial Meeting Held biyearly. The previous (8th) meeting was held in Kiruna, Sweden in May 2013.</p> <p>(2) Deputy Ministers' Meeting First meeting held in May 2010. Held biyearly on the year that, ministerial meeting is not convened.</p> <p>(3) Senior Arctic Officials (SAO) Meeting Meets at least twice a year; is convoked by the Chair.</p> <p>(4) Working Groups Six groups currently in operation (contaminants measures, monitoring and assessment, flora and fauna preservation, emergency response, marine environment protection, sustainable development).</p>
Purpose	To promote cooperation, coordination and interaction among the Arctic States, with the involvement of the Indigenous communities and other inhabitants on common Arctic issues (e.g., sustainable development, environmental protection)		

(Note) The Ottawa Declaration specifies in a footnote that the AC should not deal with matters related to military security.

The infographic is divided into three main sections: Arctic Council, Observers, and a Note. The Arctic Council section includes Member States (Arctic States) with a list of countries and their current chair, and Permanent Participants (6) with a list of indigenous organizations. The Observers section lists Countries (Non-Arctic States) (12), Inter-Governmental, Inter-Regional, and Inter-Parliamentary Organizations (9), and NGOs (11). A note at the bottom explains the observer status process at the 8th Ministerial Meeting in Kiruna, Sweden, in May 2013.

Source: Ministry of Foreign Affairs of Japan website <<http://www.mofa.go.jp/mofaj/files/000017415.pdf>>.

(4) Security

The United States and Canada, located on the Northwest Passage side, and countries such as Russia, Norway, and Denmark, located on the NSR side, are working to develop salvage and rescue arrangements in peacetime by deepening their partnerships within their respective groups. The AC has now begun to turn its attention not only to natural science and the environment, but also to security for regional stabilization. As a first step, the AC has started engaging in cooperation in search and rescue operations. Previously, cooperative arrangements were made among two regions (United States and Canada; and Russia, Norway, Finland, and Sweden),

respectively.¹¹ However, in May 2011, the AC reached agreement on the Arctic Search and Rescue Agreement under the leadership of Russia and the United States. The areas of operation were adjusted to avoid overlaps with existing search and rescue (SAR) regions and to avoid the creation of voids. It was affirmed in the Agreement that the delimitation of SAR regions would not be related to and would not prejudice the delimitation of any boundary between relevant states or their sovereignty, sovereign rights, or jurisdiction (Article 3, Paragraph 2).

The vessels and aircraft that may utilize the Arctic Ocean will not only be those registered with the NORCs. Furthermore, non-NORC companies may be operating such vessels and aircraft. Hence, effective SAR operations cannot be performed without the assistance of and the information in the possession of non-NORCs. In this regard, the provision in Article 18 was included in the Agreement. This article prescribes that any party to the Agreement may seek cooperation with states not party to the Agreement that may be able to contribute to the conduct of search and rescue operations. Shortly after the Agreement was reached, in October 2011, the first tabletop exercise was organized among a group of experts from the NORCs in Whitehorse, Canada. In April 2012, top military officials from the NORCs met at Canadian Forces Base Goose Bay. Officials agreed to continue talks on strengthening search and rescue, disaster response, and other operations by seeking the cooperation of civil authorities in the Arctic region.¹² In this manner, efforts are under way to develop search and rescue arrangements. With the granting of PO status (six countries) in 2013, the AC plans to hold regular meetings that involve these countries to deepen cooperative relations.¹³ Unlike other sea areas, changes in the natural environment cannot be neglected to gauge the security issues in the Arctic Ocean. It is alleged that in recent years as the Arctic warms, the flow of people to the region has increased and organized crime has been on the rise. In 2008, teams of non-governmental experts from Canada and the United States outlined the challenges in the Arctic Ocean, in which they noted that increased navigation will heighten security risks. Notably, they identified such risks as terrorism, nuclear proliferation, illegal immigration, and drug smuggling. In northern Canada, the authorities have become increasingly incapable of fully monitoring activities within their own Arctic boundaries due to increases in the number of tourists and economic activity triggering criminal activity. Human trafficking is another issue that is difficult to investigate and is becoming a serious problem. Drugs were confiscated in Greenland in August 2009¹⁴ and in Iceland in January 2012. It is suspected that the drugs were smuggled from Asia.¹⁵ Under these circumstances, since 2005 the Barents Euro-Arctic Council (BEAC) has taken

¹¹ Members of the Barents Euro-Arctic Council (BEAC)—Russia, Norway, Finland, and Sweden—have conducted Barents Rescue, a joint rescue exercise, every two years since 2001 to enhance their cooperation in emergency responses in the Barents Sea and the Euro-Arctic region. Through this exercise, members prepare for emergencies, such as salvage and rescue, forest fire near state boundaries, and water pollution stemming from oil. In 2009, the U.S. Navy, the Canadian Coast Guard, and the Royal Danish Navy conducted Northern Deployment, a joint search exercise, in a sea area near Thule.

¹² Randy Boswell, "Military Leaders from Arctic Countries to Meet in Canada," *Nunatsiaq News*, April 4, 2012, <http://www.nunatsiaqonline.ca/stories/article/65674military_leaders_from_arctic_countries_to_meet_in_canada/>.

¹³ "Arctic Nations Set Cooperation Guidelines," *Defense News*, June 27, 2013 <<http://www.defensenews.com/apps/pbcs.dll/article?AID=2013306270013>>.

¹⁴ "Organized Crime in the Arctic," *Arctic Portal*, August 14, 2009 <<http://www.arcticportal.org/features/705-organized-crime-in-the-arctic>>.

¹⁵ "Reykjavík Police in Cannabis Drugs Sting," *Ice News*, January 12, 2012 <<http://www.icenews.is/2012/01/12/reykjavik-police-in-cannabis-drugs-sting/>>.

measures to address these problems in the Euro-Arctic. Very few cases of human trafficking in the Arctic thus far have been brought to trial. It is expected that these crimes will continue to be on the rise as industries grow and awareness of these problems heightens. It is likely that the BEAC will endeavor to maintain stability in the Arctic region through international cooperation.

There are concerns that the retreat of Arctic sea ice will trigger an adversary force to move beyond the North Pole to attack naval bases and major gas and oil fields in the Arctic coast, or trigger an adversary force's warships to destroy major oil fields and radar facilities from off the Alaskan coast. It is not clear whether the AC will utilize the development of its search and rescue arrangements as an opportunity to further involve itself in military affairs. In this context, since August 2007, Russia has resumed patrol flights of its Tu-95 strategic bomber along the Canadian and U.S. airspace over the Arctic Ocean.¹⁶ Canada has conducted Operation Nunavut since 2007, among other operations. The NORCs are increasing their capabilities to make military deployments to the Arctic. Norway has built up trust by conducting Flotex Silver 2011, an air and naval military exercise involving foreign units, while with the Russian Navy, conducting the maritime exercise Pomor 2011. In 2009, Denmark established a military command and task force in Greenland. In 2010, Sweden announced that budget allocations would be made with top priority on weapons procurement and facility improvements, and has enhanced its air and naval force capabilities in the Arctic region. Based on these developments, there is no doubt that countries are stepping up their military operations, and it cannot be said that accidental clashes will not occur.

(5) United Nations Convention on the Law of the Sea (UNCLOS)

The five coastal nations that face the Arctic Ocean (United States, Canada, Denmark, Norway, and Russia) have underscored that UNCLOS applies to the Arctic Ocean like any other sea. Of the NORCs, seven countries excluding the United States have ratified UNCLOS. While ratification is still subject to debate in the United States, the country operates in accordance with UNCLOS provisions.

According to Article 58 of UNCLOS, in the exclusive economic zone (EEZ) that stretches across the Arctic Ocean, all states enjoy the freedoms of navigation and overflight, of the laying of submarine cables and pipelines, and of other lawful uses of the sea related to these freedoms, which have traditionally been granted in the high seas. UNCLOS identifies EEZ as an inherent area that is neither high seas nor territorial sea, making EEZs in the Arctic Ocean the sea areas of the coastal nations. This thus requires a balancing of the individual interests of coastal nations and the interests of the international community. EEZ-related provisions do not necessarily attribute all rights and jurisdiction of coastal and other nations to a single country. Depending on the content of the activity, it is unclear which country the rights and jurisdiction belong to, which could give rise to conflicts of interests. Additionally, uncertainty surrounds interstate disputes over the Arctic Ocean, including the respective countries' application for the extension of their continental shelves and territorial issues. While all countries give priority to the Arctic Ocean in their security policies, countries are unable to predict threats that will emerge in the future.

Russia and Canada claim regulatory authority over routes in the Arctic Ocean on the basis of

¹⁶ Andrew Thomson, "Standoff in the Arctic Corral," *ISN Security Watch*, March 27, 2009 <<http://byers.typepad.com/arctic/2009/03/standoff-in-the-arctic-corral.html>>.

UNCLOS Article 21 (Laws and regulations of the coastal State relating to innocent passage) and Article 234 (Ice-covered areas). Although in the summer there is a period when sea ice disappears completely, many opine that the latter article still applies under international law. The coastal nation of Russia applies laws and regulations that make advance notice, pilotage, and escort by icebreakers obligatory for navigation in the Northeast Passage, asserting that these measures are in accordance with Article 234.

The five coastal nations announced the Ilulissat Declaration,¹⁷ in which they vowed that the existing UNCLOS would be applied to resolve territorial issues in the Arctic. In 2010, Russia and Norway reached a historical agreement to delimit their territorial waters in the Arctic Ocean and draw a demarcation line nearly midway between the lines claimed by the two sides. It can be deemed that the two countries' track record of joint implementation of resource surveys in the Barents Sea and the Svalbard Islands contributed to the smooth resolution of their disputes in establishing the delimitation line. Due to the small size of the Arctic Ocean, the vastness of the continental shelf, and moreover, the enclosure of a large portion by land, it is possible that a considerable area can be classified into the extended area. The countries concerned follow UNCLOS procedures to claim sovereignty over the seabed. In 2013, Canada filed a submission regarding its Atlantic Ocean continental shelf that includes the North Pole. However, Russia is preparing to re-file its submission which asserts that the North Pole is Russian territory (Denmark filed its submission by December 2014). It follows that no matter which country's submission is approved, the political situation surrounding the Arctic could destabilize. In this regard, arriving at a consensus among the countries concerned is expected to be fraught with difficulties.

2. Major Countries' Basic Posture on the Arctic

Among the AC member states facing the Arctic Ocean, the United States, Canada, and Russia are taking progressive steps in formulating their Arctic strategies and policies compared to other countries. This section sheds light on these countries' basic posture on the Arctic.

(1) United States

The United States has yet to overcome issues such as vested interests in seabed resources. UNCLOS was signed in 1994 but remains un-ratified to this day. The United States has continued to chart its own path in deep seabed development, and has made many achievements in military actions. The country submitted a note verbale to the Commission on the Limits of the Continental Shelf (CLCS) over Russia's application for an extension of its continental shelf. The note stated that there lacked scientific evidence, and that if there is inadequate data, CLCS should not recommend the extension. For scientific surveys on its own continental shelf, the United States has launched a continental shelf extension project and conducts marine surveys proactively. U.S. claims for an extension of its continental shelf, if they are filed on the basis of the surveys, may compete with the claims of Canada and Russia. The United States is, however, working closely with Canada on continental shelf surveys.

¹⁷ The Ilulissat Declaration states that the AC countries would deliberate and examine the issues concerning the Arctic Ocean in accordance with UNCLOS. The Declaration thus avoids international consensus building for an Arctic Treaty that is similar to the Antarctic Treaty. While the Antarctic espouses joint international governance, disputes over sovereignty in this sea area have remained unresolved.

In recent years, it is not only China that has made mesmerizing maritime advancements. Brazil, India, and the ROK have also actively promoted marine resource development. Russia has already filed a submission claiming that its continental shelf extends to the Arctic Ocean. China and Russia make sovereignty claims by citing UNCLOS. The U.S. petroleum industry has expressed growing concern that if the United States does not join UNCLOS, the country could fall behind in international Arctic processes. The seabed resource industry is another industry that is urging U.S. accession. Meanwhile, as conservatives in the Republican Party assert, it is also contended that it would not necessarily be in the United States' interest to ratify UNCLOS, which would, in turn, redistribute maritime rights and profits into a deep seabed development regime, and for its management, a new international organization (International Seabed Authority). Despite asserting in the "National Strategy for the Arctic Region" in 2013 that U.S. ratification of UNCLOS was essential, nothing is still in sight that would pave the way for the completion of the discussions towards ratification. The United States is thus prevented from applying to CLCS for the extension of its continental shelf—what is expected to become a major point of contention with respect to rights and profits from the Arctic Ocean, and therefore, U.S. participation in relevant global activities is demanded. Under the present circumstances, it is suggested that the United States is not in a position to make a claim neither for the exercise of naval power, and that this could undermine U.S. national interests.¹⁸

In October 2007, the U.S. Navy, the U.S. Marine Corps, and the USCG jointly came up with "A Cooperative Strategy for 21st Century Seapower." The strategy noted that sea ice retreat in the Arctic Ocean will lead to the emergence of new routes and the development of seabed resources, which will give rise to economic opportunities. At the same time, it stated that this will become seeds of new disputes over navigation and resources. The United States considers international cooperation to be important. In May 2008, the Arctic Ocean Conference was held among the five coastal nations. Discussions took place on plans for environmental regulation, maritime security, mineral exploration, oil oversight, and transportation in the Arctic. The United States expressed its desire to conclude a security agreement among the five countries. As the countries except for Russia were members of the North Atlantic Treaty Organization (NATO), it is deemed that the U.S. aim was to attain strategic superiority over Russia in this region.

Later, in January 2009, the Arctic Region Policy (National Security Presidential Directive 66 and Homeland Security Presidential Directive 25 [NSPD-66/HSPD-25]) was established. Presidential Directives up to this point had grouped together the Arctic and the Antarctica. The NSPD-66/HSPD-25 in effect elevated the importance of the Arctic in U.S. national security policy, and developed mechanisms for whole-of-nation efforts to address Arctic issues. Meanwhile, the projections provided by such organizations as the Intergovernmental Panel on Climate Change (IPCC) (concerning the situation of the Arctic sea ice, sea level rises, and maritime acidification that has impacts on the ecosystem) were inadequate for the U.S. Navy's considerations of future troop composition and equipment refurbishment. For this reason, in May 2009, the United States decided to create Task Force Climate Change (TFCC). It consists of the core members of the

¹⁸ Opponents criticize UNCLOS's mechanism of having developed countries provide a portion of the profits from resource development conducted in a continental shelf outside of an EEZ and distributing the profits among the parties to the treaty. Among U.S. conservatives are groups that abhor the corrupt nature of UN entities, and hesitate to have the UN or its umbrella organization manage the profits. *Sankei Shimbun*, May 25, 2012.

U.S. Navy, USCG, and NOAA, along with other government departments, the academies of each military service, and universities.

The 2010 Quadrennial Defense Review (QDR2010) makes many references to the Arctic Ocean. It recognizes climate change as one of the causes of geopolitical changes, and espouses the enhancement of domain awareness in the Arctic Ocean. At the same time, it states that the United States would explore opportunities to work with Russia on issues concerning the Arctic Ocean, as well as strengthen defense cooperation with Canada. It notes that the Department of Defense (DoD) as a whole would work with the Department of Homeland Security to reinforce information exchanges, monitoring, search and rescue, and environmental observation in the Arctic Ocean to improve future planning and operation implementation. In October 2010, the Navy’s TFCC established the U.S. Navy Arctic Roadmap in line with the QDR¹⁹ (Table 1).

Table 1 Overview of the U.S. Navy Arctic Roadmap

FY	Overview of Activities
FY2010	<ul style="list-style-type: none"> • Assessments of Fleet readiness and mission requirements in the Arctic region • Development of U.S. Navy Strategic Objectives in the Arctic region • Continued partnership-building with stakeholders in the region and conduct of a limited objective experiment (LOE) for the Arctic Ocean • Continued quality assessment of the U.S. Air Force’s Polar Military Satellite Communications (MILSATCOM) program • Advocacy for accession to UNCLOS • Developing a U.S. Navy position regarding combatant commander authorities and responsibilities for the Arctic Ocean • Research and development of a next generation environmental prediction capability applicable to the Arctic Ocean
FY2011–FY2012	<ul style="list-style-type: none"> • Initiation of Capabilities Based Assessments regarding required U.S. Navy Arctic capabilities • Development of recommendations to address Arctic requirements in Sponsor Program Proposals for the U.S. Navy’s Program Objective Memorandum for FY2014 (POM-14) • Continuing biennial participation in Arctic exercises, including ICEX-11, ICEX-13, Arctic Edge, and Arctic Care • Formalizing new cooperative relationships that increase U.S. Navy experience and competency in search and rescue (SAR), maritime domain awareness (MDA), humanitarian assistance and disaster relief (HA/DR), and defense support of civil authorities (DSCA) in Alaska
FY2013–FY2014	<ul style="list-style-type: none"> • Execution of POM-14 budget initiatives that address Arctic requirements • Initiation of combined and bilateral activities which support safety, security, and stability in the region • Arctic environmental studies using unmanned underwater vehicles (UUVs)

Source: Arctic Security Considerations and the U.S. Navy’s Roadmap for the Arctic, pp. 45-46.

The Roadmap outlines what kind of vessels and equipment the U.S. Navy, USCG, and other U.S. government agencies should have and what sort of trainings they should conduct to be ready for operations in the rapidly changing Arctic. TFCC is concerned that the melting of the ice in the Arctic Ocean would increase passage volume, as well as heighten the probability of disputes over

¹⁹ TFCC submits quarterly reports on the status of the Roadmap to the Chief of Naval Operations. In addition, since 2014, TFCC reviews and revises the Roadmap pursuant to the QDR guidelines.

passage rights, sovereignty, and resources.²⁰ Hence, aside from the Arctic Ocean, TFCC intends to examine the impacts of sea level rises and other issues on the Navy's operations.

In June 2011, the DoD sent to Congress the "Report to Congress on Arctic Operations and the Northwest Passage." The report identifies limitations in command and communications capabilities, ice-capable vessels, and shore-based infrastructure, among other limitations, in the Arctic Ocean's harsh weather conditions, and assesses the necessary capabilities and infrastructure for national security. Furthermore, it notes that civilian cooperation is essential for disaster and distress rescue. The U.S. Navy states that submarines are important not only for deterrence and power projection, but also for maritime security, and would continue to rely on submarines. The U.S. Army attaches importance to aviation assets that support combat brigades and infantry brigades. The U.S. Air Force places priority on strengthening surveillance systems covering the entire country using warning radars and satellites.

In May 2013, the United States seized the opportunity of the forthcoming AC meeting to release the "National Strategy for the Arctic Region" that compiles development and security strategies in the Arctic region. In light of each country's increasing resource development activities, it is viewed that the United States aimed to demonstrate its readiness to engage proactively in securing the freedom of navigation and to expand its rights and interests in the Arctic region. The strategy notes the "emergence of a new Arctic environment" due to global warming. It identifies the Arctic Region, where there is a wealth of resources and whose importance is increasing for routes, as one of "our planet's last great frontiers," and presents the U.S. intention of strengthening its involvement in the region. The strategy sets forth three pillars: 1) Security policy to protect national interests; 2) Pursue Arctic region stewardship; and 3) Strengthen international cooperation. It showed that the United States would take steps to secure freedom of navigation, promote environmental protection measures, and strengthen coordination with the AC. However, Prof. James Holmes of the Naval War College identifies the following obstacles to the U.S. promotion of its Arctic strategy: 1) Difficultness of predicting the future of the Arctic Ocean; 2) The geographic and physical circumstances of the Arctic Ocean; 3) Lack of transparency of interstate competition surrounding the Arctic Ocean; 4) An Arctic strategy that is difficult to gain understanding among the U.S. public; and 5) The manifestation of threats in the distant future.²¹ It can be said that the realization of the Roadmap faces a plethora of challenges.

(2) Russia

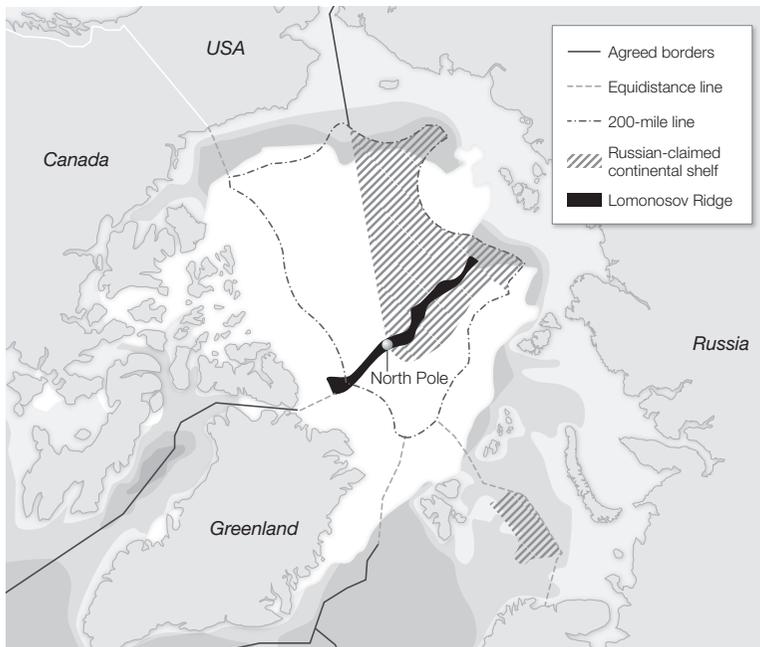
Russia has indicated it would attach strategic importance to the Arctic region for securing its rights and interests in the region, and has taken steps to establish a long-term national strategy on issues concerning the Arctic. One reason for doing so lies in the wealth of natural resources found in the Arctic region. Energy resource reserves in Russia's Arctic region exceed 1.6 trillion tons. Hydrocarbon resources in the continental shelf account for one-fourth of all continental shelf reserves in the world. On August 2, 2007, Russia's Arctic expeditionary team reached the 4,300 meter-deep North Pole seabed by two bathyscaphes for the first time in history, planting

²⁰ "Papp Warns Wrongdoers: 'Not in My Coast Guard,'" *Navy Times*, March 10, 2013 <<http://www.navytimes.com/article/20130310/NEWS03/303100304/>>.

²¹ James R. Holmes, "Five Obstacles to U.S. Arctic Strategy," *Diplomat*, April 1, 2013 <<http://thediplomat.com/2013/04/five-obstacles-to-u-s-arctic-strategy/>>.

a titanium Russian flag on the seabed as well as conducting large-scale seabed geological and resource surveys. One of the purposes of planting a flag on the seabed of the North Pole was to show that Russia's continental shelf continues to beneath the North Pole, and to collect scientific data for Russia's reapplication to CLCS.²² Meanwhile, Canada and Denmark intend to file similar applications, displaying differences in views among the countries concerned over their territorial rights to the continental shelf in the Arctic Ocean.

Figure 3 Russia's Continental Shelf Claim in the Arctic Ocean



White area shows the ice extent in summer 2005.
Source: BBC News (2007/8/01) <<http://news.bbc.co.uk/2/hi/americas/6941426.stm>>.

On September 18, 2008, then President Dmitrii Medvedev approved a state document entitled “Fundamentals of the Russian Federation’s Policy in the Arctic for the Period Up to 2020 and Beyond.”²³ This was the first time in seven years that major revisions were made to the “Fundamentals of the Russian Federation’s Policy in the Arctic” compiled in June 14, 2001 to systematically set forth Russia’s Arctic policy. The Fundamentals are an official document outlining the order of strategic priority for achieving Russia’s anticipated national interests in

²² In addition to the Arctic Ocean, on August 16, 2013, the Russian Government applied for an extension of its continental shelf in the Sea of Okhotsk to the UN. According to UNCLOS, a country is granted the right to develop underground resources, even if the seabed extends beyond the EEZ that is 200 nautical miles from the baselines, if CLCS acknowledges that the seabed is a natural extension of the country’s land territory. The purpose of Russia’s seabed exploration was to, for its reapplication to CLCS, collect scientific data showing that the Lomonosov Ridge was a geological continuation of Russian territory.

²³ Security Council of the Russian Federation, “Fundamentals of the Russian Federation’s Policy in the Arctic for the Period Up to 2020 and Beyond,” <<http://www.scrf.gov.ru/documents/15/98.html>>.

the Arctic region, long-term goals, key tasks, and Russia's national policy for the Arctic region. The revision of the Fundamentals was part of the AC member states' agreement to establish and disclose their Arctic policies and the mechanisms for their realization.²⁴

The revised Fundamentals provide for the following four items as Russia's key national interests in the Arctic region²⁵:

- 1) Use the Arctic region as a strategic resource base for solving the socioeconomic development issues of the state;
- 2) Maintain the Arctic region as a zone of peace and cooperation;
- 3) Preserve the Arctic region's unique ecosystem; and
- 4) Use the Northeast Passage as the only national transport route in the Arctic region.

The Fundamentals list other items, including secure the use of the NSR, develop a coastal security system to protect Russia's national interests and ensure security in the Arctic region, swiftly build border control infrastructure in the Arctic region, and strengthen the guarding capabilities of border control agencies.²⁶ As is evident from the above, issues concerning the Arctic are identified as strategically important issues for Russia, and therefore, are under the jurisdiction of the Security Council that develops the national security policies of Russia.

Subsequently, in May 2009, Russia released the "National Security Strategy of the Russian Federation Up to 2020"—an official document that lays out Russia's mid- to long-term national strategies. In view of the potential intensification of competition over resources in the Arctic region, the Strategy presents Russia's intention to strengthen border control in the Arctic and Far East regions.²⁷ As suggested, the Russian posture of giving priority to the Arctic in the military domain could have impacts on the future formation of the Russian Navy and the Border Service. In addition, the Far East has seen a trend towards increased border control by the Russian Border Service of the Federal Security Service (FSB).

The other reason Russia has begun to place strategic importance on the Arctic is the NSR's emergence due to the retreat of permanent sea ice caused by global warming. On March 15, 2013, Russia established the Northern Sea Route Administration.²⁸ On October 3, 2013, President Putin stated that the Arctic is an unalienable region that has been under Russia's sovereignty for the last few centuries. He said Russia would proceed with Arctic development, which will contribute to the country's national security and economic interests. He also noted that he intends to create a single administrative agency that will be in charge of Arctic policy.

Pursuant to the state document entitled "Fundamentals of the Russian Federation's Policy in the Arctic for the Period Up to 2020 and Beyond" established in September 2008, the Russian Government released a document entitled "Strategy of the Development of the Arctic Zone of the Russian Federation and National Security Up to 2020" on February 20, 2013. This effectively

²⁴ Speech by Mr. Yevgeny Lukyanov, Deputy Secretary of the Security Council of the Russian Federation, entitled "Arctic Frontiers 2013—Geopolitics and Marine Resources in a Changing Arctic" (Tromsø, Norway, January 21, 2013).

²⁵ "Fundamentals of the Russian Federation's Policy in the Arctic for the Period Up to 2020 and Beyond."

²⁶ Takahiro Ishihara, "Hokkyokukai no Senryakuteki Igi to Chugoku no Kanyo" [The Strategic Significance of the Arctic Ocean and China's Involvement], *Kaikanko Senryaku Kenkyu* [Japan Maritime Self-Defense Force Command and Staff College Review], Vol. 1, No. 1 (Inaugural Issue), May 2011, p. 57.

²⁷ *Ibid.*

²⁸ The Northern Sea Route Administration, Russian Federation website <<http://www.nsra.ru/>>.

completed Russia's development of specific action plans regarding Arctic policy up to 2020.²⁹ This document sets out concrete policy issues that the Government should address in a range of fields pertaining to the Arctic, as well as the means for doing this. In the military field, the document provided that Russia shall: predict military dangers and threats in the Arctic; deter military pressure and attacks against the Russian Federation or its allies; unconditionally ensure Russia's sovereignty and Russia's various activities in the Arctic region including its EEZ and continental shelf; remove internal and external military dangers and threats in peacetime; and ensure sufficient combat and mobilization readiness to repel attacks during military hostilities and cease military action in a way that serves the interests of the Russian Federation.

(3) Canada

Canada has consistently claimed that the waters of the Arctic Archipelago have historically been internal waters. By extending its territorial waters from 3 to 12 nautical miles in 1970, a significant portion of the Northwest Passage became Canada's territorial waters. Although Canada declared the Northwest Passage as internal waters in 1973, no evidence is available to support this declaration. Based on this claim, Canada does not permit the exercise of the right of innocent passage or the right of transit passage, and for this reason, is subject to repeated official protests from the United States. The United States and the European Union (EU) assert that the Northwest Passage is an international strait. The United States also objects to Canada's claim that waters enclosed by a straight baseline connecting the Arctic Islands and the Queen Elizabeth Islands are internal waters.

In 1988, Canada signed "Canada and United States of America: Agreement on arctic cooperation" as a practical solution to its disputes with the United States over the Arctic sea area, including the Northwest Passage. However, the Agreement is a cooperation framework to further the "shared interests" of the two countries in the Arctic Ocean, and does not delve into the issue of jurisdiction. In addition to sharing maritime information (Article 3), the Agreement prescribes that the U.S. Government obtain the consent of the Canadian Government when U.S. icebreakers enter waters claimed by Canada to be internal waters. The Agreement does not include provisions on commercial vessels and submarines. In April 2009, the two countries held talks on collaborative efforts in the Arctic Ocean, and as a result, announced their cooperation on security, environmental protection, and search and rescue in the Arctic Ocean. The United States agreed to notify Canada before passing through Canadian waters and to comply with Canadian environmental laws. However, the talks ended without seeing a convergence of the two countries' opinions on the right of passage in the Northwest Passage. In 2010, Canada decided to require vessels entering its northern waters to give advance notice of information such as their IDs and route plans. While the legal status of the Northwest Passage is a subject of frequent discussions, a practical solution has been shelved.

To exercise sovereignty over the Northwest Passage, Canada enacted the Arctic Waters Pollution Prevention Act in 1970 to protect the marine environment in accordance with Article 234 of UNCLOS, similar to Russia. Likewise, Canada established environmental pollution prevention measures and an advance notice system for transiting vessels. In June 2009, Canada extended the coverage of its pollution regulations from waters within 100 to 200 nautical miles. At the same

²⁹ Russian Government website <<http://government.ru/news/432>>.

time, Canada is working to codify the Guidelines for Ships Operating in Polar Waters (2010), which are the international regulations of the International Maritime Organization (IMO), and is expected to develop rules accordingly.

There does not exist a clear legal status of the Northwest Passage. Some opine that it is necessary to have continued substantial use of the strait for international operation over a certain period, whereas the United States attaches importance not to historic use but to the fact that the strait is usable for international operation. The retreat of sea ice in the Arctic Ocean is increasing. Nevertheless, there is no sign that in response to the rising passage volume, international calls will grow that will lead to the application of a transit passage system for the Northwest Passage as an international strait in the near future. The clarification of its unclear legal status will be entrusted to attempts to create an institutional framework through diplomatic negotiations between Canada, which seeks to maintain jurisdiction based on Article 234 of UNCLOS and the internal water regime claimed by Canada, and other countries that seek free navigation.

Between the United States and Canada is the issue of the delimitation of the Beaufort Sea facing Alaska and Yukon. The two countries have not resolved their territorial water disputes, and mineral exploration has been shelved in waters where the two countries' claims overlap. With regard to the maritime delimitation line, Canada extends the Alaska-Canada land border straight north. The United States, however, draws a line perpendicular to its coastline. This has created a relatively small triangular sea area in the Beaufort Sea where the two countries' territorial right claims overlap. Because of this dispute, a path towards a smooth resolution is not in sight.

In December 2013, Canada announced that it applied to the UN for a considerable expansion of its territorial waters in the Atlantic Ocean, and indicated its intention to claim sovereignty over the North Pole and its surrounding waters. While its EEZ draws a median line between Alaska and Iceland, Canada's extension of its continental shelf extending to the North Pole competes with Russia's claim. Oil resources have been confirmed in the filed waters, and both countries are undertaking joint seabed surveys. CLCS determines whether or not the geological evidence is trustworthy. The application is currently under review. As it will take 10 to 20 years to get a ruling,³⁰ a resolution to Canada's dispute with Russia will require more time.

Furthermore, there is a sea area whose delimitation remains unresolved between Canada and Denmark. In May 2010, Canada and Denmark signed the "MOU on Arctic Defense, Security, and Operational Cooperation," and confirmed their operational cooperative relations in the coming years. In November 2012, the two countries reached a provisional agreement on the delimitation of the Lincoln Sea situated in the Arctic Ocean north of Ellesmere Island and Greenland. As such, the countries have made some compromises albeit small ones. As regards territorial rights over Hans Island in Nares Strait off the coast of Greenland, however, Canada and Denmark have had fierce standoffs in the past, and this issue has not been resolved. It is possible that the ice in Nares Strait will melt, and consequently, the island will transform into a hub of the Northwest Passage linking North America, Asia, and Europe. Having sovereignty over this small island may offer national interests, such as resource exploration and fishing rights. This could reignite the territorial dispute, and it remains unchanged that Canada and Denmark have vulnerable relations. Canada thus has a

³⁰ Steven Chase, "Canada Confident of Claim on Arctic Underwater Mountain Range," *The Globe and Mail*, September 16, 2010 <<http://www.theglobeandmail.com/news/politics/canada-confident-of-claim-on-arctic-underwater-mountain-range/article1711046/>>.

scattering of areas where territorial right issues remain unresolved with Russia, the United States, and Denmark.

Following the shift from the Liberal Party-led government to the Conservative Party-led government in 2006, there has been a growing tendency to emphasize defense of Canada's traditional sovereignty over the Arctic. In June 2008, Canada released the "Canada First Defence Strategy," which underscores the strengthening of defense for Arctic sovereignty and develops a plan for reinforcing Canada's defense force by 2028. In July 2009, the country released a report entitled, "Canada's Northern Strategy: Our North, Our Heritage, Our Future." The report outlines measures that the Government is currently taking as well as concrete directions for the four priority tasks it has identified: 1) exercising Arctic sovereignty; 2) promoting social and economic development; 3) protecting environmental heritage; and 4) improving and devolving Northern governance. To deploy its military forces to the vast Arctic region, Canada considers it important to develop ports, airports, and facilities.

While Canada and the United States have diverging claims concerning routes, the two countries have made noticeable efforts to work together and collaborate on a number of occasions, including on Arctic survey activities and military base exchanges. In May 2013, Canada released the "Statement on Canada's Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad." In the report, it is stated that Canada will chair the AC from 2013, and in this capacity, will: 1) act to prevent pollution from resource development; 2) ensure the safety of maritime transport in coordination with the IMO; and 3) work towards the internationalization of Arctic governance. Due in part to its position as chair, Canada is expected to promote Arctic policies which have international coordination as their cornerstone. There are analyses that have pointed to five obstacles to Canada's promotion of its Arctic strategy, namely: 1) contradictory claims regarding the NSR and the Northwest Passage; 2) quarrels arising from delimiting the continental shelf; 3) disputes over fishery rights; 4) accidental military confrontations; and 5) clashes between NATO and Russia over Finland.³¹ It can be said that the realization of Canada's Arctic policy faces many challenges.

3. Military Involvement in the Arctic

(1) United States

U.S. Forces

The U.S. Forces identify the following Arctic missions: 1) maritime domain awareness (MDA); 2) search and rescue (SAR); 3) humanitarian assistance/disaster response (HA/DR); 4) maritime security; 5) fleet readiness posture; 6) sea control; 7) strategic deterrence; and 8) air and missile defense. To operate in the Arctic's harsh environmental conditions, the U.S. Forces need to also enhance their still inadequate command communication function, GPS performance, and chart updates.³² In April 2011, changes made to the United Command Plan altered the geographical boundaries of the U.S. Forces' areas of responsibility in the Arctic region. As a result, the

³¹ Standing Senate Committee on National Security and Defence, "Sovereignty & Security in Canada's Arctic," March 2011, p. 27.

³² U.S. Department of Defense, "Report to Congress on Arctic Operations and the Northwest Passage," May 19, 2011, pp. 15-16.

U.S. Northern Command (USNORTHCOM)³³ became responsible for maintaining combat capabilities in the Arctic region. In August of the same year, the U.S. Forces were realigned, and USNORTHCOM and U.S. European Command (USEUROCOM) became the U.S. units managing the Arctic region. It was also decided that USNORTHCOM would have unified chain of command over U.S. Pacific Command (USPACOM).³⁴

USNORTHCOM's primary mission is homeland defense. In particular, for air defense, USNORTHCOM coordinates operations with the North American Aerospace Defense Command (NORAD) jointly run by the United States and Canada. The USNORTHCOM commander concurrently serves as NORAD commander. The NORAD deputy commander is served by a general from the Royal Canadian Air Force (RCAF). Under this scheme, NORAD has built up the air defense mechanisms of the two countries. In addition to defending the airspaces of the two countries, the defense of the countries' sea areas and internal waters was added as a NORAD mission in May 2006. Furthermore, monitoring using satellites and unmanned aerial vehicles (UAVs) has been strengthened. NORAD also operates the North Warning System, a radar for monitoring the airspace above Alaska, Canada, and Greenland. In Alaska, the U.S. Air Force has Eielson Air Force Base (Fairbanks) and Joint Base Elmendorf–Richardson (Anchorage) to which the F-22 interceptor, early warning aircraft, among other equipment are deployed. In the Bering Sea and the Arctic Ocean, the U.S. Air Force operates a small number of the USCG's HC-130 aircraft. In addition, the U.S. Air Force has Thule Air Base in Greenland. While no aviation units are deployed there, the base operates an intercontinental ballistic missile early warning radar, and plays a key role in missile defense in collaboration with Alaska and the United Kingdom.

Due to its geographical location, the Arctic is a critically vital area for air and missile defense. The retreating sea ice in the Arctic Ocean will give a major push to expand the U.S. Navy's area of activity. If U.S. vessels are able to operate actively in the Arctic Ocean, this will significantly transform the U.S. missile defense posture. It will enable a warning radar to encapsulate the Northern Hemisphere from the Arctic region, making it easy for Standard Missile-3 (SM-3) missiles on Aegis ships to intercept intercontinental ballistic missiles and prevent attacks and counterattacks from high latitudes.

At the same time, in the absence of ostensible adversarial threats in the Arctic region, the U.S. Forces are orienting their security efforts in this region towards activities such as salvage and rescue, HA operations, DR, establishment of law enforcement, as well as communications, port facilities, icebreaking capabilities, and salvage response capabilities. By 2020, the U.S. Forces

³³ The units under USNORTHCOM are as follows: 1) Joint Task Force Alaska (JTF-AK); 2) Joint Force Headquarters National Capital Region (JFHQ-NCR): headquartered in Washington, D.C., is responsible for defending the capital, including its neighboring areas; 3) Joint Task Force Civil Support (JTF-CS): provides support to civil and other government agencies if a terrorist attack occurs in the United States involving the use of conventional bombs or nuclear, biological or chemical (NBC) weapons; 4) Joint Task Force North (JTFN): based in Texas, is responsible for supporting federal law enforcement; 5) U.S. Army North (ARNORTH): headquartered at Fort Sam Houston, is responsible for homeland defense including the border with Canada and Mexico; 6) Air Forces Northern (AFNORTH): headquartered at Tyndall, is responsible for the air defense of U.S. mainland as the First Air Force and supports U.S. Fleet Forces Command (USFF); and 7) USFF: headquartered in Norfolk, is responsible for the maritime defense of U.S. mainland and supports U.S. Strategic Command (USTRATCOM).

³⁴ U.S. Department of Defense, "DOD Releases Unified Command Plan 2011," April 8, 2011 <<http://www.defense.gov/releases/release.aspx?releaseid=14398>>.

intend to change the geographic jurisdiction split between USPACOM and the U.S. Atlantic Command (USACOM) from the existing 50/50 to 60/40. It can thus be understood that the Arctic region was removed from the jurisdiction of USPACOM in view of priority deployments.³⁵ As for budget allocations, USEUROCOM and USNORTHCOM budgets have decreased over the past three years (FY2011-2013) due to the effects of the defense budget cuts.³⁶ Nonetheless, the United States has not decreased its northern troop strength in the Arctic since the end of the Cold War to the present. The Joint Task Force Alaska (JTF-AK) has been realigned as a subcommand of USNORTHCOM.³⁷ As of now, the United States has not made any noticeable moves to increase its northern military strength. The United States, however, continues to deploy the Army, Air Force, and USCG (approx. 25,000 personnel) to Alaska and conduct offshore naval military exercises. It is expected that the United States will continue to promote collaboration between USNORTHCOM and the Canadian Forces (CF) for Arctic operations.

USEUROCOM

During the Cold War, NATO deterred confrontations within the alliance, functioned to stabilize relations among allies, and developed collective defense capabilities. In 1982, NATO established an intergovernmental operation system under E-3A (AWACS) in order to strengthen early warning capabilities in the region. The system, however, was aimed at operations within NATO's territorial area during the Cold War. In 1991, NATO shifted its strategy, identifying that threats to NATO were not direct attacks against member states, but ethnic and regional conflicts that occur in Europe's periphery region. Collective defense capabilities alone were insufficient for responding to these threats. Hence, NATO introduced the partnership policy, which was based on the concept of "security through cooperation," to enable non-member states to fulfill military functions.³⁸

NATO has overseen security in the Arctic's European region. The USEUROCOM commander concurrently serves as the commander of the NATO force, the Supreme Allied Commander, Europe (SACEUR). As a result of the reorganization of the U.S. United Command, it is anticipated that USEUROCOM engaged in NATO operations will be requested operational support from USNORTHCOM. As long as NATO's affiliation with USEUROCOM does not change, a critical question for the United States will be how to incorporate NATO into the Arctic. Although the United States established an Arctic strategy, it is still in its early stages.

NATO announced that the Iceland Fighter Meet 2014 (IFM14) exercise would be conducted in Iceland in February 2014. The Royal Norwegian Air Force (F-16A/B), the Finnish Air Force (F/A-18), and the Swedish Air Force (JAS39C/D Gripen) will conduct air defense drills. They will be supported by Swedish aerial tankers and Norwegian and Finnish rescue aircraft. Germany

³⁵ Andrew Feickert, "The Unified Command Plan and Combatant Commands: Background and Issues for Congress," *CRS Report for Congress*, January 3, 2013, p. 51.

³⁶ *Ibid.*, p. 12.

³⁷ The key units under JTF-AK are as follows: 1) U.S. Army Alaska (USARAK): headquartered at Fort Richardson, its primary units are the 1st and 4th Brigade Combat Teams of the 25th Infantry Division and the Alaska Army National Guard; and 2) Eleventh Air Force (11AF): headquartered at Elmendorf, its primary units are the 90th and 525th Fighter Squadrons. The 11AF command concurrently commands Pacific Air Forces (PACAF), JTF-AK, and the Alaskan NORAD Region.

³⁸ Tsuyoshi Fukuda, "Taiterosen to NATO: Shudanteki Jieiken to Sono Eikyo" [War on Terror and NATO: Right of Collective Self-Defense and Its Impact], *Reference*, Vol. 53, No. 3, March 2005, p. 65.

will have control of the exercise, and Iceland will be responsible for the control of fighters.³⁹ However, Canada is not expected to participate. It is noted that Canada attempts to keep NATO from operating in the Arctic Ocean.

United States Coast Guard

As sea ice in the Arctic Ocean rapidly disappears, the passage of vessels will rise in these waters, enabling the development of mineral resources. This in turn has increased the necessity of icebreakers. The USCG perceives that more powerful icebreakers are essential to maintain U.S. presence in the Arctic and to protect its economic national interests. The USCG commander has stated that icebreakers are indispensable for maintaining U.S. sovereignty in the Arctic Ocean. Polar-class icebreakers that support scientific data collection have passed their 35-year service life, and Polar Sea is scheduled for decommissioning in 2014. While the remaining one Polar Star underwent a life extension refit, it is expected to be deregistered in around 2022. As such, the USCG hopes to acquire a successor vessel.⁴⁰ The research icebreaker (MV *Susitna*) was the U.S. Navy's only ice-strengthened vessel adapted for the Arctic, but it has been disposed to an Alaskan local municipality.

The USCG routinely operates patrol vessels in waters near the Arctic Ocean, along with operating icebreakers (3 vessels). Going forward, the USCG is scheduled to build large maritime security cutters (8 vessels). While these vessels are not ice-strengthened, their design is adapted for operational deployments to some Arctic sea areas. The USCG is also expected to carry out SAR missions when marine accidents or other incidents occur in the Arctic. Nonetheless, due to a lack of sufficient operational bases for SAR, the USCG must enhance its joint operational capabilities with other countries' military forces. In July 2011, USCG Commander Robert Papp testified to a U.S. Senate Subcommittee that the U.S. operation capability in the Arctic region is extremely limited, that capacity enhancement is needed to enable operations in extreme cold areas, and that the United States should consider establishing seasonal bases for the possession of icebreakers and sea and aerial patrol missions.⁴¹ However, no concrete plans have yet been formed.

Military Deployment

Since the Cold War, the U.S. Navy has consistently deployed nuclear-powered submarines to the Arctic. Additionally, the U.S. Navy conducts military exercises every summer (Northern Edge and Alaska Shield). In this process, many aircraft carriers, combat vessels, and landing vessels have gained operational deployment experience in northern waters. In early 2009, Russia's Delta-class strategic nuclear-powered submarine launched an intercontinental ballistic missile from the Arctic

³⁹ Nicholas Fiorenza, "Iceland Fighter Meet 2014," *Aviation Week*, July 5, 2013 <<http://www.aviationweek.com/Blogs.aspx?plckPostId=Blog:27ec4a53-dcc8-42d0-bd3a-01329aef79a7Post:69106d3d-753d-423a-a6e6-56c9ed2f4fc8>>.

⁴⁰ U.S. Coast Guard, *United States Coast Guard 2013 Posture Statement with 2014 Budget in Brief*, April 2013, p. 33. In Russia, since 2011, Rosatomflot has adopted a posture in which an icebreaker leads six to eight vessels. Russia is expected to commission a third-generation nuclear-powered icebreaker by 2015 and utilize it in rivers and oceans.

⁴¹ United States Senate Committee on Commerce, Science, & Transportation Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard, "Hearing on: Defending U.S. Economic Interests in the Changing Arctic: Is There a Strategy?" July 21, 2011.

seabed, taking the United States by surprise. Nonetheless, Russia's recent intensification of Arctic submarine activities follows a nearly 20-year blank period. In contrast, the United States' latest Virginia-class nuclear-powered attack submarine USS Texas transited the North Pole in November 2009. By demonstrating that all U.S. submarines have the ability to navigate the Arctic Ocean, the United States keeps Russia in check. Of the U.S. submarines, nuclear-powered attack submarines (53 submarines), excluding the nuclear-powered ballistic missile submarine (SSBN), are capable of breaking ice underwater. The submarines can operate under the Arctic sea ice and routinely navigate under sea ice. It is not known which route the U.S. submarine took. It is also not clear whether the submarine transited Canadian waters, and if so, whether the Canadian Government was notified in advance.

In any case, since 1958, the U.S. Navy has continued to conduct ice exercises (ICEX) where submarines navigate across the Pacific Ocean to the Atlantic Ocean via the Arctic Ocean. In March 2009, two Los Angeles-class nuclear-powered attack submarines (USS Helena and USS Annapolis) took part in this exercise. Securing maritime traffic routes in the Arctic Ocean requires gauging the characteristics of the ocean. Data accumulation is thus one of the objectives of these exercises. In March 2011, Virginia-class nuclear-powered attack submarine USS New Hampshire and another vessel took part in ICEX and navigated under sea ice. This exercise included a drill off the coast of Alaska (Prudhoe Bay). Following unit realignment, in November 2012, the U.S. Navy conducted a test of a communication system connecting Alaska's three sites (Barrow, Kotzebue, and Anchorage) with USNORTHCOM headquarters (Colorado) and the Naval Surface Warfare Center (Virginia). In this polar test to confirm whether communication tools can be used even in cold areas, it was confirmed that telecommunications with several Iridium satellites was possible. USNORTHCOM and USEUROCOM are also scheduled to utilize these communication tools. It can be said that these activities are an effort to promote the sharing of operational information.

Iceland's military importance has declined with the end of the Cold War, and the U.S. Forces withdrew from Naval Air Station Keflavik in September 2006. The United States has signed a SAR cooperation agreement with Iceland. However, as long as Iceland does not possess its own military forces, the cooperation is not adaptable to contingencies. Through the Northern Viking military exercise, the United States attempts to strengthen its presence in around Iceland, together with Canada, Norway, and Denmark.

In the Arctic region, military facilities that track and monitor the orbits of intercontinental ballistic missiles are possessed by Russia, and on the other side of the Arctic Ocean, by the United States and Canada. The U.S. Forces deploy a total of 30 Ground Based Interceptors (GBIs) to its bases in Alaska (Fort Greely) and California.⁴² In the United States and Canada, air bases for strategic bombers and air defense systems to counter an adversary's military aircraft are set up at NORAD. Alaska's missile defense is essentially designed for North Korean, Iranian and other nuclear and missile threats. In March 2013, the United States announced that by FY2017, 14 GBIs would be added to increase the number of GBIs by 50% from the current number to 44 GBIs.⁴³ The Aegis guided missile cruiser USS Lake Erie launched an SM-3 missile and shot down a separating target in May 2013, and its precision has been increasing year after year. The number

⁴² U.S. Missile Defense Agency website.

⁴³ "Ayotte: Obama Intends to Cancel SM-3 IIB Missile Program," *Defense News*, March 13, 2013 <<http://www.defensenews.com/article/20130319/DEFREG02/303190022/>>.

of BMD-adapted vessels is approximately 30⁴⁴ and is scheduled to increase in the years ahead. If these vessels deployed to the Atlantic and Pacific Oceans as well as the Sea-Based X-band Radar (SBX)⁴⁵ deployed off the coast of Alaska are sent to the Arctic Ocean where they can be operated from high latitudes, the U.S. missile defense posture will likely be transformed.

At the same time, the USCG is responsible for conducting patrols and rescues in the Arctic Ocean. The USCG has not neglected to strengthen its operation mechanisms while maintaining its limited equipment. Every year, the USCG conducts the Operation Arctic Crossroads exercise in Alaska. While testing the suitability of its rotary-wing aircraft and fixed-wing aircraft in the Far North, the USCG performs SAR in remote areas and provides medical care for residents. In summer 2012, the USCG conducted its first patrols in the Arctic Ocean (Arctic Shield 2012). In 2013, the USCG conducted patrols with a focus on Alaska's western waters (Arctic Shield 2013).⁴⁶ The USCG, which has conducted rescue operations in the Great Lakes, and the Alaskan community collaborated to implement trainings in responses to oil leakages in the Arctic Ocean. In view of Shell's oil drilling and development plans in the Beaufort Sea and the Chukchi Sea, the USCG decided to strengthen its pollution prevention and environmental protection operations. To this end, the USCG is considering establishing units based in Barrow facing the Beaufort Sea and in Kotzebue and Nome facing the Bering Strait and conducting joint exercises with USNORTHCOM. While the USCG's equipment and facilities in the Alaska region are presently inadequate, focus is being placed on reinforcing the USCG's operational readiness.

In September 2014, a total of six Russian aircraft, including the Mig-31 fighter (2 fighters), entered the U.S. Air Defense Identification Zone (ADIZ) near Alaska. U.S. F22 fighters intercepted the aircraft's intrusion into U.S. airspace. It is said that in the five years up to that point, NORAD intercepted more than 50 Russian military aircraft that were encroaching territorial airspace.⁴⁷ The United States, which attaches importance to its Arctic strategy, will need to closely monitor the developments as they could trigger security contingencies.

(2) Russia

Russia has taken steps to increase its military presence in the Arctic region to maintain its economic rights and interests, ensure the security of the NSR, and protect its resource mining facilities, shipment terminals, and transport infrastructure (pipelines). On September 26, 2013, the Northern Fleet, civil ships, and icebreakers conducted a landing exercise in the Novaya Zemly islands as part of training in safe navigation in the Arctic region. Although the Russian Government explains that the exercise is intended for responding to terrorism, smuggling, illegal immigration, poaching, and other incidents, it is also the case that Russia places emphasis on developing infrastructure

⁴⁴ As of July 2013, 5 of 22 Ticonderoga-class guided missile cruisers and 26 of 62 Arleigh Burke-class guided missile cruisers—a total of 31 guided missile cruisers are adapted for BMD. U.S. Missile Defense Agency website <<http://www.mda.mil/>>.

⁴⁵ The SBX phased-array radar (total length approx. 120 m, total width approx. 70 m, displacement approx. 50,000 t, can be self-propelled) operated by the U.S. Missile Defense Agency is deployed to northern Pacific Ocean near Alaska. "Special Report: Exclusive Tour of the SBX Radar," *Hawaii News Now*, November 23, 2011 <<http://www.hawaiinewsnow.com/story/16105886/special-report>>.

⁴⁶ "Coast Guard initiates Arctic Shield 2013," *U.S. Coast Guard News*, May 16, 2013 <<http://www.uscgnews.com/go/doc/4007/1776075/Coast-Guard-initiates-Arctic-Shield-2013>>.

⁴⁷ Steve Brusk and Ralph Ellis, "Russian planes intercepted near U.S., Canadian airspace," *CNN*, September 21, 2014.

for border security and defense, including satellite and radar systems.⁴⁸ The Russian Navy began to conduct surveillance activities in the Arctic Ocean in July 2008 and has conducted continuous Arctic patrol flights from 2013. As is provided for in the “Fundamentals of the Russian Federation’s Policy in the Arctic for the Period Up to 2020 and Beyond,” Russia plans to form an Arctic military group consisting of primarily the Navy and the Border Service in the future.⁴⁹

The Arctic ice retreat may have significant impacts on Russia’s military affairs and security. During the Cold War, despite the fact that the Arctic was a strategic front that existed between the United States and the Soviet Union, the Arctic did not become a military strategic area for the reason that military deployment was impossible. The Arctic was no more than a nuclear missile launch and projection route. If the NSR emerges, then the area of activity of naval vessels will expand, and this will give rise to sea areas where land deployment of the military will become possible. For Russia, therefore, the Arctic may become the fourth strategic front, along with the western region (Europe), southern region (Caucasus and Central Asia), and eastern region (Far East). On December 1, 2014, a new northern unified strategic command was launched in the Arctic front, in addition to the four unified strategic commands in the western, southern, central, and eastern regions.⁵⁰ Under the northern command are the Northern Fleet, as well as Arctic brigades affiliated with the Armed Forces and some of the air force and air defense units. In this regard, the command is anticipated to implement unified command of Armed Force, Navy, and Air Force units located in the Arctic region.

A new factor that is beginning to have impacts on Russia’s Arctic policy is China’s entry into the Arctic using the NSR. On July 2, 2012, China’s polar research vessel “Xue Long” departed Qingdao, Shandong Province and headed for the fifth Arctic expedition.⁵¹ In addition, “Xue Long” conducted the sixth Arctic expedition in 2014. Recently, Russian military exercises conducted in the Far East seem to bear in mind China’s maritime expansion. President Putin instructed in the “Executive Order on implementing plans for developing Armed Forces and modernising military-industrial complex” released on May 7, 2012 to develop the Navy in the Arctic and the Far East.⁵² It is noteworthy that the Arctic region, where Russia places strategic emphasis, and the Far East region were mentioned side by side. It signifies that Russia has begun to see the Arctic region and the Far East region as a single, strategically integrated theater connected by the NSR. As described, Russia’s posture of attaching strategic importance to the Arctic has led to Russia’s consideration of the Arctic and the Far East regions as a single theater and to Russia’s steps to enhance the Navy in this region.⁵³

At the Japan-Russia summit meeting held on June 17, 2013, President Putin revealed that Russia endorsed the granting of AC observer status to Japan, which was approved in May, and praised the joint resource development by Japan and Russia in the northern part of the Sea of

⁴⁸ Katarzyna Zysk, “Russia’s Arctic Strategy: Ambitions and Constrains,” *Joint Force Quarterly*, issue 57, second quarter 2010, p. 107.

⁴⁹ “Fundamentals of the Russian Federation’s Policy in the Arctic for the Period Up to 2020 and Beyond.”

⁵⁰ *RIA NOVOSTI*, December 1, 2014 <http://ria.ru/defense_safety/20141201/1035928938.html>.

⁵¹ XUELONG online <<http://xuelong.chinare.cn/xuelong/index.php>>, accessed on December 3, 2012.

⁵² Russia’s Executive Office website <<http://eng.kremlin.ru/acts?since=07.05.2012&till=07.05.2012>>.

⁵³ For more information, see Shinji Hyodo, “Roshia no Hokkyoku Seisaku: Roshia ga Hokkyoku wo Senryakuteki ni Jushi suru Riyu” [Arctic Policy of the Russian Federation: Reasons Why Russia Sets a High Strategic Value on the Arctic], *Boei Kenkyusho Kiyo* [NIDS Security Studies], Vol. 16, No. 1, November 2013.

Okhotsk, which was announced in late May. While AC observer statuses were granted to six countries in total, namely Japan as well as China, India, Italy, the ROK, and Singapore, Russia actively endorsed the granting of observer statuses to India and Japan. Furthermore, if joint resource development in the Sea of Okhotsk is realized, Japanese tankers will be frequently entering and leaving the sea. This is expected to extend to the Sea of Okhotsk the SAR exercise conducted by the Japanese Maritime Self-Defense Force (MSDF) and the Russian Pacific Fleet in the Sea of Japan, for the securing of sea lanes. It can be construed that these developments are a manifestation of Russia's expectations for Japan-Russia cooperation in the Arctic Ocean and the Sea of Okhotsk in Russia's sphere of influence, out of concern for China's expansion into both waters.

(3) Canada

In May 2012, Canada announced the realignment of the chain of command of the Canadian Forces (CF) and the realignment of the Royal Canadian Navy (RCN) in response to the new security situation.⁵⁴ In October 2012, the Canadian Joint Operations Command (CJOC) was established. The CF and the U.S. Forces signed agreements to create a framework for supporting other departments and agencies in response to threats and hazards, in collaboration with USNORTHCOM, and to strengthen their cooperative relations and partnerships through trainings and exercises in peacetime.⁵⁵ Together with the United States, Canada operates the North Warning System (NWS) surveillance radar, which is a part of NORAD. In addition, Canada plans to develop a satellite and underwater surveillance system to monitor the Arctic and to gauge the movement of vessels. The RADARSAT-2 earth observation satellite equipped with the high resolution civil radar system launched in 2007 is used to monitor the Arctic. The Canadian Space Agency (CSA) has said that by 2015, three satellites will conduct daily surveillance of Canada's land mass, coastlines, and water routes, and provide coverage of the Arctic Ocean at a pace of four times per day. This mission will be led by the CSA and supported by departments such as the Department of National Defence (DND), Fisheries and Oceans Canada, Natural Resources Canada, and Transport Canada.⁵⁶ Canada is also taking steps to monitor vessels approaching the Northwest Passage by establishing underwater sensors in the Barrow Strait under the Northern Watch program,⁵⁷ while it is not expected to be completed by 2014.

The RCAF deploys the CF-18 fighter (approx. 80 fighters) to its bases in southeastern and central Canada, and can be sent to RCAF bases such as Inuvik and Yellowknife (western region), Rankin Inlet (central region), and Iqaluit (eastern region). The primary mission of the

⁵⁴ The realignment integrated the chain of command of the Canada Command, the Canadian Expeditionary Force Command, and the Canadian Operational Support Command under the Canadian Joint Operations Command, and the number of personnel was reduced by 25%. In addition, with a view to improving the efficiency and effectiveness of the RCN, the Directorate Canadian Submarine Force was established, with its command located at the Maritime Forces Pacific (MARPAF). *National Defence and the Canadian Forces*, October 2, 2012 <<http://www.cjoc.forces.gc.ca/wwh-qqc/mission-eng.asp>>.

⁵⁵ General Charles H. Jacoby, Jr. of the U.S. Army and Lieutenant-General Stuart A. Beare of the CJOC signed two documents: the Framework for Arctic Cooperation; and the Tri-Command Training and Exercise Statement of Intent.

⁵⁶ *Canadian Space Agency News*, January 9, 2013 <<http://www.asc-csa.gc.ca/eng/media/backgrounders/2013/0109.asp>>.

⁵⁷ Standing Senate Committee on National Security and Defence, "Sovereignty & Security in Canada's Arctic," March 2011, p. 15.

CF-18 attack fighters is to prevent Russian bombers and reconnaissance units from intruding into Canadian airspace. The recent situation makes it imperative that Canada strengthens responses to the flying of Russian aircraft near Canadian airspace. However, Canada has scrapped the plan to introduce the F-35 stealth fighter (65 fighters) by 2020, and to this day, there are no prospects for the establishment of an alternative plan. Anti-submarine patrol aircraft (18 aircraft) are deployed to Canada's eastern coast and are performing monitoring activities in the Arctic region. Furthermore, helicopters and transport aircraft are routinely operated in the Arctic. In particular, the C-130J and C-17 transport aircraft are adapted for Arctic operations. According to the Canada First Defence Strategy, Canada will replace the CP-140 with 10 to 12 new aircraft by 2020.

Rescue operations in Canada's vast land area are also an important mission of the RCAF. However, its C-130 and other aircraft for SAR are old models. In 2002, Canada launched the Fixed-Wing Search and Rescue Aircraft Replacement (FWSAR) project, but it remained at a standstill. After the Government's auditor general pointed to the shortage and aging of rescue aircraft, lack of capacity, and lack of training,⁵⁸ it was finally decided that aircraft would be procured by 2017, marking the beginning of rescue asset enhancements. In August 2011, similar to Denmark, Canada withdrew from NATO's RQ-4 Alliance Ground Surveillance (AGS) project. In 2009, Canada launched a program to strengthen surveillance of the Northwest Passage using UAVs, under the Canadian Forces Joint UAV Surveillance and Target Acquisition System (JUSTAS) project. At present, Canada is struggling to select a high-flying UAV from candidates, such as the U.S. Global Hawk and Predator and the Israeli Heron, and development work has remained in arrears.⁵⁹ For the time being, Canada must continue to carry out surveillance operations under the existing manned aircraft-based system.

Canadian Rangers, which are a lightly armed paramilitary force of the Canadian Army (CA), conduct patrols and reconnaissance missions year-round in the Arctic. The number of Rangers was 4,100 in 2008 and has increased to 5,000 by 2012. CA units are equipped with basic cold tolerant training and equipment, but Canada has increased winter training of large units. In August 2009, the Canadian DND announced that a CA reserve company would be assigned to Yellowknife. The CA is scheduled to organize a 200-personnel Yellowknife company by 2019 as Canada's most northern unit. It can be said that the Yellowknife company is part of Canada's plan to heighten its presence in the Arctic region, as presented in Canada's Northern Strategy.

So far, the CA has not fully developed its operational deployment ability in the Arctic due to dispatches to operations in Afghanistan. It is therefore projected that after the withdrawal of troops from Afghanistan, Arctic assets would be strengthened further. As part of this, an Arctic special operations force (around 500 personnel) will be established. In 2007, a training base for special Arctic training was set up in the vicinity of Resolute Bay. It is possible that the CA would be deployed from here to the most northern CA base, Alert. Due to defense spending cuts, however, the Government has approved a 22% budget reduction in 2015 from the 2011 level. It is unclear how this will affect Canada's presence in the Arctic.

⁵⁸ Kristy Kirkup, "Auditor general: Search and rescue plagued by outdated equipment," *Toronto Sun*, April 30, 2013 <<http://www.torontosun.com/2013/04/30/search-and-rescue-plagued-by-shoddy-outdated-equipment-auditor-general>>.

⁵⁹ David Pugliese, "Special Report: Unmanned Systems: Canada Eyes UAVs to Supply Arctic Missions," *Defense News*, April 30, 2013 <<http://www.defensenews.com/apps/pbcs.dll/article?AID=2013304300016>>.

The RCN has combat vessels (15 vessels) and submarines (3 submarines of which 1 is under accident repair); none of them are ice-strengthened. In Operation Nanook, the icebreaker of the Canadian Coast Guard (CCG) accompanied the RCN and navigated the Arctic region. The CCG is responsible for surveillance operations in the Arctic Ocean. It owns unarmed large and medium icebreakers (5 icebreakers) and small icebreakers (6 icebreakers). Most were designed with only summer operations in mind. Looking ahead to the increasing activity in the Arctic Ocean, discussions are under way as to whether the CCG should be given the role of exercising police authority to conduct territorial policing.⁶⁰

In October 2011, the Canadian DND concluded contracts with Halifax's Irving Shipbuilding (combat vessels) and Vancouver's Seaspan Marine (non-combat vessels) for the next 30-year project to build the ships of the RCN and CCG, which will become key assets. It is expected that the Arctic Offshore Patrol Ship (AOPS) that is drawing attention will have the primary mission of monitoring the EEZ in the Arctic region, and will conduct high-speed patrols as well as operations even in frozen seas (6-8 ships).⁶¹ The AOPS is scheduled to be commissioned sequentially starting in 2017. It is conceivable that these vessels will be equipped with rotary-wing helicopters, or have Rangers and the CA on board. The RCN's bases closest to the Arctic are in Halifax in southeastern Canada and Esquimalt in southwestern Canada. Even with its superior cruising performance, replenishment sites will be needed for AOPS to operate in the Northwest Passage. By 2017, a RCN replenishment base is expected to be built in Nanisivik, Arctic Bay (roughly 73° N latitude), and it will be a vital military hub in the Arctic Ocean. Additionally, Canada plans to build a total of 116 CCG vessels and RCN small vessels.

In April 2006, the CF's Joint Task Force North (JTFN) declared that the relevant waters would not be called the "Northwest Passage" but "Canadian Internal Waters," including Canada's surrounding waters such as the Gulf of Saint Lawrence. Subsequently, from April 2007, the CF has implemented Operation Nunavut to establish arrangements for monitoring, maintaining sovereignty, and SAR in the high latitude Arctic region. Rangers under JTFN conduct training in a different remote area every year to be able to support operations in tough environments, and are demonstrating their presence. Furthermore, every August since 2007, the CF and CCG-led large-scale military exercise, Operation Nanook, is conducted. For the purpose of joint operations, mainly the CA and the RCN carry out the exercise in the northeast region or the high altitude Arctic region, and has extended it to the northwest region year after year. This training is also participated by the Royal Canadian Mounted Police (RCMP), and since 2011, by the U.S. Navy, the USCG, and the Royal Danish Navy, and aims to enhance unified command capabilities. Operation Nanook is followed by Operation Nunakput, which is conducted in July to August in the Beaufort Sea by the CCG, the RCMP, among other units. The operation endeavors to improve maritime security capabilities against illegal fishing, smuggling, and other activities. These exercises are held from April through August when training can be conducted. On the ground, snow/ice navigation and reconnaissance training, survival training, and weapons and equipment tests in cold areas are

⁶⁰ Martin Langford, "The Navy's Arctic Challenge," *Canadian Naval Review*, Vol. 7, No. 4, 2012, p. 30.

⁶¹ The AOPS will have a range of at least 6,800 nautical miles, be able to sustain operations for up to four months, and have a cruising speed of 14 kt and a maximum speed of at least 17 kt. While it will not have ice breaking capabilities, it will have ice strengthened capabilities. National Defence and the Canadian Forces, January 14, 2013 <<http://www.materiel.forces.gc.ca/en/aops.page>>.

repeatedly performed. In the sea, communications training, SAR training, diving training, and other trainings are carried out. They show that Canada's top strategy is to maintain sovereignty in the Arctic, and Canada intends to increase its operation deployment capabilities in high latitudes.

In December 2011, it was revealed that Soviet nuclear-powered submarines may have collected accurate information on key sections of the Northwest Passage, such as the Barrow Strait and the Nares Strait, from Cold War era nautical charts.⁶² This came to light from Russian nautical charts which were prepared in the 1960s and owned by the Russian research vessel Akademik Ioffe. The charts describe the water depth in detail, suggesting that Soviet nuclear-powered submarines routinely patrolled the Canadian Arctic. Since March 2013, military exchanges between Canada and Russia have been suspended in response to the situation in Ukraine. Following on from the intrusion into U.S. ADIZ in September 2014, the Russian long-range bomber Bear (2 bombers) entered the Canadian ADIZ, which were intercepted by Canada's CF18 fighters (2 fighters). Accordingly, as long as Canada considers the Northwest Passage as internal waters, it will no doubt react sensitively to the movements of Russia's nuclear-powered submarines and is expected to boost maritime surveillance.

(4) China

China started making observations of the Arctic in around the same time as Japan, and established the Yellow River Station in Svalbard in 2003. The Chinese Arctic and Antarctic Administration (CAA) formulates polar policies and research plans, and the Polar Research Institute of China (PRIC) undertakes observations and research. In November 2009, at the 17th ROK-China cooperation on marine science and technology meeting, the ROK and China agreed to embark on joint research in the Arctic Ocean from 2010. For the joint Arctic survey, the two countries decided to exchange researchers and conduct technical cooperation on deep-sea resource development using the ROK icebreaker, RV Araon. It was also decided that the two governments would put effort into increasing policy exchanges and marine science and technology cooperation, including the holding of the ROK-China Yellow Sea marine forum every other year. In particular, previously, research and studies on the Yellow Sea and the East China Sea could not be carried out without the permission of the Chinese Government. However, the two countries shared the view that research projects on the marine environment and geological structure would be swiftly promoted. The ROK-China Joint Committee on Cooperation in Marine Science and Technology, which has been in operation since 1997, may be playing the role of preventing and solving frictions that inevitably arise between the two countries.

As the melting of the Arctic sea ice progresses, China has shown eagerness to gain a foothold in the Arctic. In 2011, China enacted the "outline of the national '12th Five-Year Plan' plan for marine science and technological development" that includes activities in the Arctic. The plan identifies that a comprehensive survey on the Arctic and Antarctica environment is a vital project, and outlines the implementation of a comprehensive survey in key areas of the Arctic, including the Arctic sea area and the Yellow River base. It states that China will conduct independent surveys to gauge the trends in environmental changes and the effects on global climate change, report on

⁶² Bob Weber, "Russian Maps Suggest Soviet Subs Cruised Canadian Arctic," *The Globe and Mail*, December 6, 2011 <<http://www.theglobeandmail.com/news/national/russian-maps-suggest-soviet-subs-cruised-canadian-arctic/article4180292/>>.

the mechanisms of the changes in the polar regions due to the global climate situation, and increase capabilities for addressing climate change. Furthermore, the plan states that China would build a polar survey platform.

In November 2011, the Chinese company Beijing Zhongkun Investment Group attempted to purchase land in Iceland under the pretense of tourism development. In response, the Government of Iceland formally announced that it would not sell to the company. There were speculations that this purchase reflected the Chinese Government's intention to gain concessions in the Arctic. Following this, in October 2012, it was revealed that the Chinese company and Iceland moved closer to reaching a basic agreement on land development, as part of the company's long-term strategy on Arctic development. The United States sees this as China's strategic move to gain a foothold to make advancements in the Arctic.⁶³ In April 2012, Premier Wen Jiabao visited Iceland and unveiled that China would develop its first free trade zone with Europe. China signed a free trade agreement with Iceland and intends to expand cooperation in areas such as energy conservation, environmental protection, education, science research, and tourism. The agreement includes strengthening cooperation and coordination on issues concerning the Arctic.

Simultaneously, China is taking steps to secure resources by inviting dignitaries from the Greenland autonomous government to China and accelerating talks on resource exploration and mining in northern Greenland. While Greenland is Danish territory and is a non-state actor, it has the ability to take a stake in the resource concessions in the Arctic Ocean both geographically and legally.⁶⁴ Greenland was granted the right to own resources within its territory under the Act on Greenland Self-Government in 2009, and Denmark respects Greenland's right of self-determination. If China acquires the right to drill resources in Greenland, it will be able to develop infrastructure in Greenland in the same manner as China's expansion in Africa.⁶⁵ China has persistently deepened its involvement in Greenland, and furthermore, currently conducts cooperation in the financial domain. In the last several years, the number of Chinese visitors to Greenland has also increased. In June 2009, President Hu Jintao made his first visit to Denmark accompanied by managers of state-owned enterprises. China and Denmark signed an agreement on economic cooperation on the environment, energy, and other areas. In addition, China concluded economic cooperation agreements with Finland and Canada in March 2013, and has diligently provided supports to the Scandinavian member states of the AC. If China builds an airport or other infrastructure in Greenland and elsewhere, it will transform Europe's security arrangements in the Arctic region. There is no mistake that China's development of hubs in the Scandinavian countries will continue to put Scandinavian countries, including NATO, on greater alert.

Since 1999, China has conducted five Arctic surveys on "Xue Long," the icebreaker it purchased from Ukraine in 1993. In July 2012, Xue Long navigated the NSR and appealed the

⁶³ Peter Ohotnicky, Braden Hisey, and Jessica Todd, "Improving U.S. Posture in the Arctic," *Joint Force Quarterly*, issue 67, 4th quarter, 2012, p. 58.

⁶⁴ In June 2009, authority over mineral development, immigration, food, among other items was transferred to the autonomous government. Act on Greenland Self-Government (Act no. 473 of 12 June 2009).

⁶⁵ According to the Greenland autonomous government, Greenland is projected to have an oil field supplying at least 1.01 trillion barrels of estimated oil reserves, equivalent to about 42% of Saudi Arabian reserves, and an oil field supplying at least 2.00 billion barrels of estimated oil reserves, equivalent to one-third of the North Sea's reserves. Major oil companies, such as Exxon Mobil, Chevron, DONG Energy, Husky Energy, Encana, and Statoil have acquired rights to conduct drilling and mining surveys and development.

practicality of the NSR. Xue Long transited the North Pole on its return, and in this regard, China has steadily accumulated a track record in Arctic surveys. In 2013, China is in the process of building a new observation ship. China adopted the approach of co-designing with Finland, and aims to complete the building of the ship domestically. The ship will dramatically increase China's icebreaking capabilities, enhance its facility transport capabilities, and be able to handle ocean observation missions.⁶⁶ If the ship is commissioned in 2014, China will have two ships, which would enable the conduct of simultaneous surveys in the Arctic and Antarctica.

The NSR shortens the Shanghai-Hamburg route by 5,200 km compared to the route that transits the Suez Canal. It is projected that 5-15% of China's international trade by shipping, which uses mainly container vessels, will utilize the NSR. In 2013, a Chinese shipping company conducted China's first commercial navigation to the Netherlands via the NSR. It is said that by 2020, a maximum of 15% of China's international trade by shipping will transit the Arctic Ocean. The national 12th Five-Year Plan identifies seabed resources as essential resources that support China's future economic growth. In December 2011, it was reported that Chinese shipbuilding companies embarked on the development of ice-class ships that are capable of navigating cold sea areas, such as the Arctic Ocean, as well as the development of seabed drilling equipment (rigs). It is reported that at least 16 companies have entered the business of developing ice-class ships. As regards rig development, it is alleged that Chinese companies received orders from Russian companies and have begun production.⁶⁷ If the NSR becomes usable, the demand for ice-class ships may increase, and China's transport services may rise.

As noted, today, with the NSR increasingly becoming a shortened route between Europe and Asia, the emergence of China as a potential key player may heighten friction between China and Russia over the Arctic.⁶⁸ In 2010, CAA Director Qu Tanzhou stated that China would deem seabed resources in the Arctic Ocean as common heritage of mankind, applying the concept of high seas to the Arctic Ocean.⁶⁹ This hardline posture is not based on international law. Attention will be paid to how China, having gained the AC's PO status, will intervene in the policies of Scandinavian countries. If the foreign policies of the Scandinavian countries towards Iceland and other areas fall into abyss, it could lead to China claiming maritime rights and interests. Twenty-two years after the Cold War, China exhibits naval power in the East China Sea, the South China Sea, and the Indian Ocean. The concern about China's exercise of naval power if obstacles were to face energy transport in the NSR is not a needless concern.

⁶⁶ A summary of the ship's performance is as follows. Total length: Approx. 122 m; Width: Approx. 22 m; Draft: Approx. 8.5 m; Standing displacement: Approx. 12,000 tons; Speed: Approx. 15 kt; Cruising range: Approx. 20,000 nautical miles; No. of cruising days: Approx. 60 days; Capacity: Approx. 90 people. The ship can carry out observations and surveys of comprehensive elements in the world's major oceans, including ocean, air, and seabed. The ship has: the ability to collect, process, analyze, and store samples; a data system; and the ability to transmit data. The ship meets the demands of integrated surveys of the environment, marine geophysics, and marine ecology. The ship has icebreaking performance that exceeds Xue Long's, and can conduct navigation and science surveys in all sea areas including Antarctica and Arctic. The ship has equipment, such as a cable-operated autonomous underwater vehicle (AUV) and a remote-controlled unmanned underwater vehicle (UUV). *People's Daily*, March 29, 2013 <<http://j.people.com.cn/95952/7627190.html>>.

⁶⁷ *Nihon Keizai Shimbun*, December 19, 2011.

⁶⁸ Stephen Blank, "The Arctic: A Future Source of Russo-Chinese Discord?" *China Brief*, December 3, 2010, Vol. 10, Issue 24, pp. 7-10.

⁶⁹ Wang Qian, "Arctic research set to be beefed up," *China Daily*, May 6, 2010 <http://www.chinadaily.com.cn/china/2010-05/06/content_9814100.htm>.

(5) Republic of Korea

The ROK established the Dasan Station in Svalbard in 2002 for meteorological observations. In 2004, it set up the Korea Polar Research Institute (KOPRI) under the Korea Ocean Research and Development Institute (KORDI) and began operating the icebreaking observation vessel RV Araon. The ROK commenced full-fledged entry into the Arctic Ocean in 2008, around the time that it applied for PO status ahead of Japan and China. In 2009, the ROK and China agreed to cooperate on scientific observations, and the icebreaking observation vessels of the two countries conducted joint surveys in the Arctic. In the same year, the Center on Research of the Northern Sea Route was founded at Korea Maritime and Ocean University, which is conducting civil research on icebreakers. Additionally, the ROK is scheduled to conduct seabed drilling prior to full-scale energy development in the Canadian EEZ in the Beaufort Sea in the Arctic, together with Canada and the United States. The ROK aims to lay down the groundwork for taking part in methane hydrate production in the case that it becomes possible in this region.⁷⁰ Shifting its sights to Scandinavia, in June 2011, KOPRI announced that it would promote the Svalbard Integrated Arctic Earth Observing System (SIOS)⁷¹ in collaboration with the EU. In August 2011, the ROK entered the icebreaker market, which had been monopolized by Scandinavia, by developing the world's largest polar icebreaker (190,000-ton class).

Pursuant to its “Marine Science and Technology Roadmap” (December 2011), the ROK set forth a policy to invest in the development of marine and polar science technologies, and to open new marine industries as well as conduct R&D simultaneously in the Arctic and Antarctica by 2020. In particular, focus was placed on: research on the Arctic Ocean; support for opening up the NSR; building a climate change monitoring system; and strengthening information provision for disaster prevention and the development of related industries. The ROK's Arctic policy has been given a significant boost. In September 2012, the ROK held talks with the Greenland autonomous government on promoting practical cooperation between the two countries, including green growth aimed at achieving a harmony between the environment and economic vitalization, resource development, and the opening up of the NSR, and concluded an MOU on resource development cooperation. In addition, in September 2012, the ROK Ministry of Land, Transport and Maritime Affairs and the Norwegian Ministry of Trade and Industry concluded an MOU on shipping cooperation between the two countries. Based on this MOU, the two countries decided to deepen mutual cooperation on the use of the NSR and maritime infrastructure cooperation matters, among other areas.

In recent years, along with the expanding use of the Arctic Ocean, the ROK, which has world-leading shipping and shipbuilding industries, has supported public-private economic activities. In November 2012, which marked the 25th anniversary of the ROK polar policy, the ROK Ministry of Land, Transport and Maritime Affairs established the “Polar Policy Advancement Concept”

⁷⁰ Japan Ship Exporters' Association and Japan Ship Technology Research Association, “Kankoku ni okeru Kaiyo Kaihatsu Sangyo no Genjo oyobi Kongo no Senryaku ni kansuru Chosa” [Study of the Current Situation of the Marine Development Industry in the Republic of Korea and of the Future Strategy], March 2013, p. 13.

⁷¹ Through international cooperation, this international joint research project builds a state-of-the-art earth observing system in the Svalbard Islands. The Research Council of Norway proposed and leads the project to monitor the earth's changes and promote research in the high latitude Arctic region. Japan's National Institute of Polar Research (NIPR) joined in 2010 and has undertaken international joint research with Norway since 1991. NIPR website.

for presenting a vision and direction of the national-level polar policy. With a target to achieve an integrated implementation of Antarctica and Arctic policies, organizations related to polar policy will be strengthened under a Government standing committee. The concept includes the enactment of laws that will serve as the legal basis for the Arctic policy, the establishment of a government-level Arctic policy master plan (action plan), the creation of a database on Arctic-related information, and the fostering of Arctic experts. Moreover, the concept aims to open up the NSR, develop marine plants and the ship building industry, create new business models including participation in resource development, and establish new growth sectors. In particular, looking ahead to the commercialization of the NSR, primary focus is placed on pilot operations and crew training, strengthening cooperation with coastal nations for passage, and increased production of ships and marine plants for the polar region. The ROK has also stepped up its measures for resource development in the Arctic Ocean.

Since 2012, the ROK Government has promoted cooperation with the Arctic coastal nations including Russia under the ROK's "New Northern Policy." The ROK Government released the "Program for the Vitalization of ROK-Russia Economic Cooperation Taking the Opportunity of Russia's WTO Accession" (July 2012). According to the document, the ROK will participate in Russia's economic revitalization project centered on construction, healthcare, IT, and other sectors. Notably, the ROK intends to promote cooperation in the energy and natural resource development sectors as well as the development of the NSR. It is evident that the ROK is advancing a national policy in which it will be able to find a breakthrough from the NSR in the future and enjoy economic interests in the shipping industry. The ROK promotes cooperation with the Arctic coastal nations, as well as a plan to develop a comprehensive transport network that connects the Korean Peninsula and the Arctic. Having acquired the AC's PO status and having gained a foothold in multilateral governance, it is expected that the ROK will proactively engage in Arctic policy to make its voice increasingly heard.

(6) India

India perceives that Arctic exploration is becoming key to enhancing its economic and political status. It can be said that India started paying attention to Arctic exploration in order to improve its economic and political status. By becoming a PO, India will no doubt embark on Arctic policies with other Asian countries, including China. In 2007, India commenced surveys in the Arctic Ocean, and established the Himadri research facility in Svalbard. Domestically, discussions have begun to emerge on how the Arctic Ocean should be managed as a global common, what actions India should take to protect the environment, and what strategies India should pursue including energy development.

India, where there has been rapid economic development, relies on imports for its energy sources. It is expected that further development will lead to even more energy imports. It can be conceived that India seeks to acquire energy in the Arctic Ocean to diversify its suppliers, so that the energy supply will not be destabilized by political or other situations. Since commencing joint development in Sakhalin I in 2001, India has worked to expand development in Russia, including the Oil and Natural Gas Corporation Videsh Limited's purchase of a Russian company, and has

expressed interest in joint development in Sakhalin III.⁷² In addition, diplomatic interests play a critical factor. In the case of Sakhalin I, development is linked to diplomatic interests that arose from the strong relationship between India and Russia. India's moves to secure energy supplies in Central Asia and Africa have been accelerating as a result of competition with China. Similarly, India may intervene more actively in the Arctic Ocean as an outcome of its relationship with Russia and competition with China, among other reasons. There are also information interests. Even if the Arctic Ocean is far away from India and does not deliver many direct interests to the country, there is significance to keeping abreast of the situation. For example, if the NSR gains attention and comes to be utilized proactively, then it is anticipated that the importance of the Indian Ocean route that passes through the Suez Canal, the Cape of Good Hope, and the Strait of Malacca will decrease relatively. Therefore, India, with a hub port, needs to have an accurate grasp of the trends in the situation in the Arctic Ocean, make projections, and take measures. Accordingly, it is expected that India's involvement in Arctic policy will deepen.

Conclusion

In April 2013, Japan established a new Basic Plan on Ocean Policy (approved by the Cabinet on April 26, 2013).⁷³ The plan does not, however, delve into Japan's security initiatives in the Arctic Ocean. In November 2012, a LNG tanker transported LNG for the first time from the Barents Sea to Japan via the NSR. It can be considered that more oil and LNG can similarly be transported and supplied from Norway and the United Kingdom to Japan, if the NSR is used as a shortened transport route, albeit only during the summer. As the Arctic coastal nations take the lead in promoting coordinated efforts under the AC's leadership, Japan stands as a potential user of the NSR. In addition, China and the ROK will access the Arctic Ocean by transiting Japan's periphery waters. In this light, the three countries along with Russia should work together as potential NSR users to take measures, including developing salvage and rescue arrangements and cracking down on illegal activities.

As regards the impacts of the Arctic's transformation in the military domain, the strategic nuclear-powered submarines of the United States and Russia will see longer periods of activity

⁷² Masumi Kimura, "Indo kara Mita Roshia Chuo Ajia no Enerugi Senryaku" [The Energy Strategies of Russia and Central Asia from the Perspective of India], *Sekiyu Tennen Gasu Rebyu* [Oil & Gas Review], Vol. 46, No. 3, May 2012, pp. 7-10.

⁷³ The measures outlined in the Basic Plan are directed at: 1) improvement of scientific knowledge (its continuation and promotion as it will also contribute to future NSR usability assessments); 2) securing a stable marine transport system (holding of consultations with relevant countries on the feasibility of using the NSR, and consideration of the possibility of the route's opening, technical challenges, economic challenges, etc.); 3) steady promotion of marine surveys (studies on NSR usage related to the creation of sea ice condition charts for safe navigation of ships in the NSR, etc. using sea ice measurement data collected by satellites); 4) Research and development related to forecasts and adaptation to global warming and climate change (observations, survey research, etc. of the Arctic region bearing in mind the use of the NSR); 5) Promotion of initiatives that use outer space (review of the feasibility of new uses of satellite information and measures for marine development and use, securing marine safety, and comprehensive marine management, including demonstration experiments pertaining to sea ice charts for safe ship navigation in the NSR); and 6) International cooperation with regard to the sea (promotion of international cooperation on marine observations in collaboration with relevant Japanese and overseas institutions, including bilateral cooperation based on science and technology cooperation agreements, etc.). Futoshi Osada, "Arata na Kaiyo Kihon Keikaku nitsuite" [About the New Basic Plan on Ocean Policy], Ocean Policy Research Foundation Maritime Forum (Tokyo), May 23, 2013.

and expanded scopes of patrols. In recent years, the United States has disclosed its activities in Alaskan waters, possibly to keep a check on Russia, which is geographically better positioned for military deployment. Meanwhile, new actors may emerge. A possibility is Chinese submarines. It has been confirmed that in May 2013, a former Yuan-class normal submarine equipped with an air-independent propulsion (AIP) system navigated underwater in the contiguous zone near Okinawa.⁷⁴ In addition, China is believed to be operating Jin-class nuclear-powered strategic submarines and Shang-class nuclear-powered attack submarines. If China ultimately succeeds in the development of ballistic missiles that will be carried on nuclear-powered strategic submarines, and if the use of these ballistic missiles in actual warfare becomes feasible, the U.S.-Russia confrontation may be compounded.

Most of the NSR is in the sea area under Russian control and, at its eastern starting point, there is the Sea of Okhotsk. To enter the Sea of Okhotsk and approach Sakhalin and Vladivostok, the Bering Strait, the Aleutian Islands, the Kruzenshtern Strait, the Etorofu Kaikyo, and other straits must be transited to sail through the Kuril Islands. It is of strategic importance for Russia to secure the right of free passage through the Etorofu-Urup Strait. When China's icebreaker "Xue Long" headed for the fifth Arctic expedition in 2012, Russia conducted military drills off Sakhalin as well as in the Sea of Okhotsk, which were intended to act as checks on China. While its relevance is unclear, the Russian Border Service has deployed guard vessels (approx. 9 vessels) to waters around the Northern Territories and has strengthened surveillance in these waters.⁷⁵ China, for its part, has been increasing its energy imports using the NSR. It is logical that China would place emphasis on the sea route up to the transit point of the Bering Sea, and the sea area of operations of the Chinese Navy, including its submarines, may possibly expand into the Bering Sea. In May 2013, a plan was established for Japan and Russia to jointly develop and mine the seabed oil field in the Magadan offshore area in the Sea of Okhotsk by mid-2020.⁷⁶ Japan's aim is to diversify its energy suppliers. Compared to the Middle East or elsewhere, this area also offers the advantage of shorter transport. Attention will be placed on the changes in the security situation which result from the activities of plants and vessels in periphery waters due to this development.

In April 2013, the MSDF and the Russian Navy agreed to cooperate on future joint SAR operations in the Arctic Ocean.⁷⁷ As the Sea of Okhotsk will serve as a sea line of communication in the future when vessels sail to the Arctic Ocean from Northeast Asia, it is necessary to establish Japan-Russia SAR arrangements in the Okhotsk Sea area. The Okhotsk Sea is a hub of economic activities for Japan and a gateway to the Arctic Ocean for Russia. Due to its rising strategic importance for both countries, cooperation on surveillance activities in this sea area must be taken into consideration. The Arctic Search and Rescue Agreement that was entered into by the AC in 2011 is the only relevant multilateral arrangement. Looking ahead to the activities in the Arctic Ocean, it is imperative that Japan is also involved in the treaty. Particularly, for search and rescue in the sea areas near the Bering Sea which serve as a gateway, exchange of information and drills from peacetime pursuant to agreements made with Canada and Russia, aside from the United States, are desirable. A heightened presence of the Russian and Chinese Navies for command of the sea

⁷⁴ *Sankei Shimbun*, May 26, 2013.

⁷⁵ *Sankei Shimbun*, August 2, 2012.

⁷⁶ *Yomiuri Shimbun*, May 29, 2012.

⁷⁷ *Sankei Shimbun*, April 25, 2013.

in the Arctic Ocean will require the United States to supplement its presence in the Arctic Ocean with parts of its Pacific Fleet force. Such cases are anticipated to have significant implications for Japan's defense posture, expand the sea area subject to surveillance activity northward, and affect the deployment of submarines.