Northern Sea Route Infrastructure - Security Implications

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Use of the NSR

NSR map source: National Geographic “Cold Rush” March 2016
a. Current and projected shipping

i. Currently, NSR traffic is tied to Russian hydrocarbon development. NSR through traffic decreased in 2017, yet destination traffic to the NSR greatly increased with the development of the Yamal Peninsula (Norwegian Polar Institute).

ii. Transit along the NSR and hydrocarbon development in Yamal are interdependent. The vast majority of shipping along the NSR up to 2018 was for the construction of Yamal plants and associated ports. As plant productivity increases, LNG shipping is expected to supplant construction related shipping.

iii. Production at the new Yamal plant helped increase the traffic on the NSR by 25 percent in 2018, to 18 million tons of cargo. Putin has ordered that the tonnage be quadrupled to 80 million tons in just five years (Bourne, 2019).

iv. Russia is promoting the use of the NSR as an alternative international shipping route. There is interest from non-Arctic states in using the NSR for a faster and safer commercial trade route.

v. The first non-Russian commercial vessel to travel the Northern Sea Route in 2010 sailed continuously and averaged more than 12 knots sailing from Norway to Shanghai. The Arctic shortcut shaved a third of the route through the Suez Canal and saved $180,000 in fuel alone. The historic success raised expectations, especially in Russia for a future major maritime transit route.

vi. China remains an interested customer. The 5 COSCO commercial vessels that used the NSR and China’s investment in purchasing icebreakers show that China is willing to move in that direction if determined more profitable in the long run (Sorensen and Klimenko, 2017).

b. Debate over determination of national vs. international waters

i. Article 234 of UNCLOS gives Arctic coastal states special regulatory and enforcement rights to reduce and control vessel source marine pollution within the exclusive economic zone (EEZ) (Sakhuja, Narula, 17).

ii. A competing argument is that the Northern Sea Route and the Northwest Passage are “international straits” according to the United Nations Convention on the Law of the Sea (Devyatkin, 2018).

iii. The US contests Russia’s claim and argues that the Arctic’s shipping lanes, such as the NSR, should be considered international waters and exempt from Russian regulation (Devyatkin, 2018).

iv. Although not yet legally challenged, Russia’s federal regulations assert control over the sea route and lay out terms for its use by foreign states. No foreign vessel has transited the NSR without seeking Moscow’s consent since 1965, which implies implicit consent to the status quo (Devyatkin, 2018).

v. Russia along with other Arctic states, is requesting an expansion of their recognized territory through the UNCLOS for an extended continental shelf in the Arctic beyond 200 nautical miles (Stokke, 2018). The claim would extend all the way to the contested Lomonosov Ridge.
c. NSR Securitization

i. There are two competing narratives to explain Russia’s security posture and intentions in the Arctic. There are academics and policy advisors that claim it is taking an aggressive posture with military capacity building, and another outlook that explains Russia’s investments as driven by economic interests to support hydrocarbon production and NSR shipping, and to abide by Arctic Council agreements for Search and Rescue (SAR) requirements in light of increased Arctic activity (Devyatkin, 2018).

ii. As economic and energy development in Yamal grows, infrastructure supporting it includes a refurbishment of the security infrastructure. Old bases are being rebuilt and new outposts are expected to support search and rescue, emergency response, and environmental cleanup.

iii. Since 2015, Russia constructed six new bases including, air fields, ports and bases. Russian military buildup focuses more on general restoration of military infrastructure than increasing offensive capabilities (Devyatkin, 2018).

iv. The inclusion of an Arctic brigade and the return of nuclear submarines in the region make securitization an applicable term for some observers. The ongoing debate is over the perception of securitization versus Arctic capacity building on Yamal Peninsula.

v. The head of Russia’s Arctic Commission, Dmitry Rogozin, is also the Deputy Prime Minister of the Russian defense and space industries, as well as Russia’s former ambassador to NATO. He is also often regarded as a leading figure in Russia’s militarization of the Arctic. Heading the Arctic Commission means he is responsible for the economic development and security of Russia’s Arctic regions (Devyatkin, 2018).
Securitization of the Polar Zone and the NSR

There’s a thin line between Arctic capacity building and securitization. With more activity in the Arctic there are also military exercises, new bases, nuclear submarines, and Arctic specialized forces, which if interpreted as an escalation can increase securitization and tensions in the region.

1. Securitization by Russia
   a. In 2013, the Russian Air Force crossed the Gulf of Finland and carried out a mock nuclear attack against Sweden (CSIS, 2018)
   b. In 2015, a Russian drill included a takeover of Northern Norway, seizure of Finland’s Aland islands, Sweden’s Gotland island, and Denmark’s Bornholm island in the Baltic Sea (Pezard et al., 14)
   c. In 2018, the Northern Fleet conducted an exercise through the NSR involving the redevelopment of the Bastion Defense Concept combing patrols by attack submarines, surface vessels, and air power (Tallis, 2020).
   d. The newest development is the construction of the Nagurskoye fighter aircraft base in the Franz Josefs Land archipelago. Expected to be operational in 2020, it will be the world’s most northern combat aircraft base (Danish Defense Intelligence Service, 2019).
   e. Russia is restoring Soviet military bases along the NSR and establishing new bases
   f. Russian military build-up in the Arctic: (Pezard et al., 12)
      i. New bases along the NSR are on: the New Siberian Islands, Wrangel Island and Cape Schmidt
      ii. The new Arctic Brigade is based in Alakurtti near the Finnish border. Plans for a second Brigade and navy and air components for both are expected by 2020
      iii. Russia announced building 10 air-defense radar stations and S-400 air defense missiles on Novaya Zemlaya and the port of Tiksi
      iv. The Northern Joint Strategic Command (2014) coordinates all military assets in the Arctic
   g. The State Programme of Armament (2007) outlined Russia’s plan to rebuild its maritime deterrence forces, including the modernization and expansion of submarine forces.
      i. Delta III and Delta IV SSBN submarines
      ii. Borei class nuclear missile submarines (8 projected by 2020)
      iii. Long range bomber patrols were reintroduced in the Arctic with fighter escorts (Huebert 371)

2. Securitization by the United States
   a. Fort Greely, Alaska is an anti-ballistic missile base, reduced after the Cold War, it is now the location for 36 ground based midcourse interceptors as a deterrent to North Korea. (Huebert, 374)
   b. Thule Air Base in Greenland, was an important Cold War Base established in 1953. It still operates and in addition to the ballistic missile early warning system and space surveillance at Thule, the US conducts climate research on Greenland’s icecap (Cammarata and Lippman, 2020).
   c. The US Navy’s second fleet was recently reactivated with four vessels, the Ticonderoga-class guided-missile cruiser USS Normandy and Arleigh Burke-class guided-missile
destroyers USS Lassen, USS Forrest Sherman, and USS Farragut and a helicopter maritime strike squadron. In September 2019, the second fleet set up a temporary operations center in Keflavik, Iceland as part of an expeditionary mission in the High North (Humpert, 2019).

d. The US resumed attack submarine patrols in the Arctic, occurred simultaneously with the resurgence of Russian Arctic military capabilities.

e. The US is pursuing Nordic defense relations with European Nordic states to bolster defense capabilities against Russia in the absence of NATO.

i. The US bolstered security ties with Finland and Sweden during the US-Nordic Leaders Summit, the US-Nordic Defense Dialogue, and the Nordic-Baltic 8+1 (US) all in 2016. (CSIS, 2018)

ii. NATO’s Enhanced Forward Presence and the Very High Readiness Joint Task Force (VJTF) are strengthened land forces in northeastern Europe.

3. Securitization by China

a. The Chinese Navy (PLAN) conducted a joint training exercise with Russia passing through the Bering Sea in 2015

b. PLAN vessels navigated through the Arctic to reach Denmark, Finland and Sweden (2015)

4. Securitization by Europe

a. EU Permanent Structured Cooperation on Defense (PESCO) since 2017 with 25 EU member states participating

i. PESCO allows thus willing and able member states to jointly plan, develop and invest in shared capability projects, and enhance the operational readiness and contribution of their armed forces. The aim is to jointly develop a coherent full spectrum force package and make the capabilities available to Member States for national and multinational (EU CSDP, NATO, UN, etc.) missions and operations (EDA).

b. The future EU Defense Union (2025)

i. Military requirements: This is the starting point for an effective and coordinated approach to military mobility across the EU. The European External Action Service (EEAS) and the EU Military Staff will develop military requirements, which reflect the needs of the EU and its Member States, including the infrastructure needed for military mobility.

ii. Transport infrastructure: By 2019, the Commission will identify the parts of the trans-European transport network suitable for military transport, including necessary upgrades of existing infrastructure (e.g. the height or the weight capacity of bridges). A priority list of projects will be drawn up. The Commission will take into account possible additional financial support for these projects in the next multiannual financial framework.

c. NATO VJTF & Response Force (2016)

i. The VJTF is a brigade that will be able to deploy within 48 hours and will eventually include 5,000 troops. It is part of the NATO Response Force (NRF),
NATO’s high-readiness force comprising land, air, sea and Special Forces units capable of rapid deployment wherever needed. Both the NRF and its new ‘spearhead force’ aim to strengthen the Alliance’s collective defence capability. They are a key component of what has been called the “Readiness Action Plan” agreed by NATO leaders at the Wales Summit in September 2014.

d. The Northern Group (2010)
  i. The Northern Group was initiated by the UK in 2010 and comprises the Nordic and Baltic states as well as the Netherlands, Poland, the United Kingdom and Germany. The Northern Group meets twice a year on defence ministerial and defence policy director level respectively as well as at vice chief of defence level once a year.

e. The Joint Expeditionary Force (JEF) is UK led initiated in 2014
  i. Signed with partners from Denmark, Estonia, Latvia, Lithuania, the Netherlands and Norway, aims to develop the JEF so that it is fully operational before 2018.
  ii. The JEF is a pool of 10,000 high readiness, adaptable forces that is designed to enhance the UK’s ability to respond rapidly, anywhere in the world, with like-minded allies, or on behalf of international organisations such as the UN or NATO.
  iii. The UK’s contribution will include the lead commando, airborne, armoured, aviation, air and maritime task groups

f. Nordic Defense Cooperation (NORDEFCO) a platform for Nordic countries to strengthen national defense, facilitate common solutions, and conduct cross-border training exercises in the high-north. (CSIS 2018)
  i. The NORDEFCO structure includes political and military cooperation levels. In the Policy Steering Committee, nations are represented by senior departmental officers, such as the Policy Director, The Military Coordination Committee consists of flag-officers, representing the nations’ chiefs of defence.
  ii. Once a cooperation activity is implemented, it will be run by the regular, existing national chain of command. When the activity is being implemented, a NORDEFCO agreement will decide upon a framework or lead nation concept for the activity. Examples of this could be educational cooperation, where responsibility is divided between the nations or a common exercise plan with a rotating host nation scheme for major exercises.
  iii. NORDEFCO Objectives:
    1. A comprehensive, enhanced and long-term approach to defence related issues
    2. Identify and discuss defence related strategic and policy issues of common interest
    3. Increase operational effect and quality of the armed forces
    4. Strive for an optimum resource allocation and cost-efficiency in defence related areas
    5. Develop interoperability and capability to act jointly
6. Develop cooperation in the area of multinational operations, defence related security sector reform and capacity building in support of international peace and security
7. Achieve technological benefits
8. Promote the competitiveness of the defence industry; and
9. Strengthen cooperation on any other possible future area of cooperation.

iv. Activities:
   1. contributions to UN missions
   2. Peace Support education and training - the NORDCAPS
   3. Armament Cooperation – NORDAC for common development, procurement and maintenance related to defence materiel

   g. European Nordic military exercises include Cold Response (2016), Arctic Challenge (2017), and Aurora (2017)
   h. Sweden and Finland have increased military activities since 2014
**NSR shipping and hydrocarbon infrastructure development**

The NSR as a preferred shipping route has potential, particularly for China, as trial commercial voyages significantly cut transport time. However, currently NSR traffic is tied to Russian hydrocarbon development. NSR through traffic decreased in 2017, yet destination traffic to the NSR greatly increased with the development of the Yamal Peninsula hydrocarbon infrastructure (Norwegian Polar Institute). In late 2019, Russia announced plans to invest more in NSR infrastructure, and created further incentives to attract further investment in hydrocarbons and the NSR as a commercial shipping route.

1. **NSR navigability**
   a. The NSR officially opened in 1935
   b. Commercial navigation declined in the 1990s after the USSR disintegrated
   c. In 2010, Russia and Canada concluded a treaty on the delimitation of maritime areas in the Barents Sea
   d. Now, with Russia modernizing its ice-breaker fleet and refitting Arctic stations, the NSR is an attractive shipping alternative.
      i. Japan can shorten its route to Hamburg by 27% (19 days)
      ii. Chinese shipping to Rotterdam is 1.5x faster than transport through the Suez Canal (Sorensen and Klimenko, 2017)
      iii. Korea saves a distance of just over 3,000 nms sailing from Busan to Rotterdam (Moe 190)

2. **NSR shipping concerning Russia**
   a. Russia maintains 17 Arctic ports along the NSR, and deploys 5 ice-breakers (Lalonde, 59)
   b. Shipping declined after 2014, and is mostly domestic and for hydrocarbon infrastructure development in the Arctic Zone
   c. Russia cited the NSR as a national integrated transport and communication system for the AZRF (Arctic Zone of the Russian Federation)
   d. Development of NSR infrastructure depends on hydrocarbon development in the region, as that is the strongest economic incentive to use the NSR
      i. A depletion of oil and gas resources in Siberia drives exploration and extraction elsewhere in the Arctic
      ii. The AZRF has 14% of its oil and 80% of its natural gas production
      iii. Russia lacks expertise and infrastructure for off-shore drilling. The only off-shore project on the Arctic Shelf is in the Pechora Sea (operational since 2013) (Sorensen and Klimenko, 2017)
   e. Russia has ambitious plans to develop the NSR as a mainstream shipping route
      i. Goal is to increase cargo volume shipping to 63.7 million tons by 2020 (2014 recorded 4 million tons) (Moe, 196)
      ii. Russia is building 3 nuclear powered icebreakers to strengthen its escort fleet
   f. Russian plans for developing NSR infrastructure outlined below have yet to be realized
      i. The Transport Strategy 2030
      iii. ‘The Russian Arctic Socio-Economic Development Strategy’ of 2014
iv. June 2015 the Integrated Development Plan for the Northern Sea Route. The plan included measures to provide navigation hydrographics and hydro-meteorological support for navigation in the waters of the NSR, such as search and rescue assistance, development of seaports and ensuring defense in the waters of the NSR. (Sorensen and Klimenko, 2017)

g. Since 2014, Russia is looking to Asia for investment of its hydrocarbon projects in the Arctic. US and EU sanctions resulted in the loss of many Arctic development projects (Gazprom and Rosneft were subject to sanctions).

h. The Bovanenkovo gas field on the Yamal peninsula will be at full capacity by 2021 (16.5 million tons/year) and China will be the main importer

i. Rosneft and China established a joint venture for the development of resources in East Siberia—Srednebotuobinsk field

j. In May 2014 Gazprom and the China National Petroleum Corporation (CNPC) signed a 30-year contract for the supply of natural gas on the eastern route through the Power of Siberia pipeline. (although currently delayed) China is hesitant to open credit lines with Russia that could have repercussions with the US and EU.

3. NSR shipping concerning China

a. 64% of transit shipping along the NSR is bound to and from Asia (Sorensen and Klimenko, 2017)

b. China wants to use Arctic sea routes for commercial ventures with plans for a “Polar Silk Road” which includes investment in sea route infrastructure for regular passage. Current infrastructure development includes:
   i. Trial voyages
      1. The first successful commercial shipping on the NSR was in 2013
      2. 5 COSCO vessels passed through the NSR in 2016
   ii. Hydrographic surveys for navigation, security and logistical capacities
   iii. Development of a ‘blue economic passage’ linking Europe and China through the Arctic Ocean
   iv. Construction of ice-breaker ships

c. Since 1995 China is conducting scientific exploration in the Arctic
   i. 8 expeditions in the Arctic Ocean
   ii. Exploration along the NSR

d. China is currently investing in these NSR projects:
   i. Belkomur railway
   ii. deep-water harbor in Arkhangelsk
New NSR investment plans

The Russian Federation’s new development plans for the NSR span 15 years and were approved in December 2019. The plans are a response to President Putin’s decree in May 2018 to increase annual shipments along the NSR to 80 million metric tons by 2024 (Staalesen, 2019). The government estimates that the proposed tax preferences will bring in up to 15 trillion rubles (€216 billion) of new investments in the Russian Arctic over the next 15 years (Staalesen, 2019). The new plan covers 11 areas (Middleton, 2020).

a. Port infrastructure and terminals: The Pevek port will be reconstructed by 2020 and the reconstruction of the seaport of Sabetta will be completed by 2021 (located on Yamal Peninsula). Once complete, Sabetta port will be able to accept cargo throughout the year.

b. Search and Rescue: Construction of rescue coordination centers is expected to be co-financed by extracting companies in the Arctic. They shall prepare proposals for rescue coordinating centers in Pevek, Sabetta, Dixon and Tiksi. Additionally, 11 new SAR vessels serving various purposes are expected to be constructed and in operation by 2024.

c. Navigational and hydrographic support: three existing vessels will be modernized and 13 new navigational and hydrographic vessels will be built by 2023. Russia’s budget for 2020-2022 has funds of 2.9 billion rubles (EUR 42 mill.) allocated to support navigational and hydrographic works on the NSR.

d. Development of ice-breaking capabilities: five new icebreakers will come online between 2022-2024, and an additional three super powerful Lider class icebreakers are scheduled for 2027, 2030 and 2032.

e. Stimulation of cargo traffic and international shipping: To support future shipping needs, the ports of Murmansk and Petropavlovsk-Kamchatsky have the potential to become logistical hubs for servicing international transit cargo, and the viability of the proposal will be ready by 2020. Future digital systems for logistics along the NSR will assist in tracking.

f. Avia and railway network development: Plans to expand the NSR network include linking it to existing and new railroad networks and construction of new airports.

g. Safety and communications network development: The plan covers creating continuous satellite communication by launching four geostationary satellites by 2024. The launch of six space modules by 2024 will secure a high-speed automatic identification system (AIS) on the NSR. The density of meteorological stations is expected to increase to provide more precise weather forecasting, and by 2025 the hydrometeorological data would be available via GEO satellites. Moreover, a unifying single operational control center, which is expected to be launched by 2021.1

h. Electricity generating capacity to support infrastructure: there will be an evaluation plan for electricity that will include LNG-based solutions.

i. Training and skills development: training new skills is in the plan to include medical skills.

j. Domestic shipbuilding for the Arctic shipping: there are stimulating measures for domestic construction of container ships.

k. Ecological safety: New technologies will be mandated for pollution reduction in the seas.

1 Middleton.
Potential conflict between Arctic sovereignty and international claims

There is currently no comprehensive international treaty governing the Arctic, there are several international agreements that apply, but may not be applicable to emerging situations. The Arctic Council is also limited, it cannot enforce international law and does not include security concerns in its mandate. As more non-Arctic states gain interest in the region, governance structures will likely be challenged.

1. Existing legal framework applicable to the Arctic region
   a. The Northern Sea Route Administration (NSRA)
      i. Issues permissions for navigation through the NSR
   b. UN Convention on the law of the Seas (UNCLOS)
      i. Part VI of UNCLOS: if a state proves a zone is part of its continental shelf, it alone has the right to explore and exploit resources there
      ii. Arctic states wishing to expand their continental shelf limits (beyond 200nm) are submitting proposals to the Commission on the Limits of the Continental shelf (CLCS)
   c. The Charter of the UN
   d. Spitzbergen Treaty (1925)
      i. Concerns Norwegian sovereignty of the Svalbard archipelago, the scope and restrictions of its sovereignty. It is an open Treaty, states that did not participate do not have to accede (42 states signed). (Sobrido, 81)
      ii. In the 1980s, Norway took punitive measures against Russia, Iceland and Spain
      iii. The EU contested the arrest of Spanish and Portuguese vessels in 2004 due to their failure to comply with Norwegian legislation (Sobrido, 84)
      iv. 2010, delimitation of the Svalbard waters of the fishery protection zone between Norway and Russia (Sobrido, 80)
   e. Arctic Search and Rescue Agreement

2. Russia favors keeping closed governance structures, protecting sovereignty rights of Nordic states, preferring the ‘Arctic 5’ as a cooperation body (2016 Russian Foreign Policy Concept)
   a. Russia claims NSR goes from Novaya Zemlya to the Bering Strait
   b. Russia asserts that straits within the NSR are historic inland waterways and therefore under Russian exclusive jurisdiction. However, to be legally classified historic waters by UNCLOS, other states must acknowledge its sovereignty.
   c. Russia enforces national laws on vessels passing through the NSR:
      i. The Rules of navigation on the water area of the Northern Sea Route
         1. Published in 2013 requiring a Russian ice pilot for navigating the NSR.
            “In compliance with item 5 of article 51 of CCN fee rate for the pilot ice assistance in the water area of the Northern Sea Route is determined in accordance with legislation of the Russian Federation about natural monopolies taking into account the capacity of ship, ice class of ship, distance of the escorting and period of navigation.”
2. In 2015, a draft law was presented to the Duma requiring all oil and gas shipments be carried on vessels under the Russian flag. The law is expected to discourage international interest if passed (Moe, 198).

ii. Russian Federal Law of Shipping on the Water Area of the Northern Sea Route, of 2012 defines the limits of the NSR including:
   1. Insurance requirements
   2. Shipping fees
      a. Prior to 2011, there were high fixed tariffs on cargo, that has since loosened in the attempt to encourage more shipping. Fees are now negotiated individually at a competitive rate (Moe, 195)
   3. Icebreaking assistance fees
      a. fee rate of the icebreaker assistance of ship in the water area of the Northern Sea Route is determined according to the legislation of the Russian Federation about natural monopolies taking into account the capacity of ship, ice class of ship, distance of the escorting and period of navigation (fees can be calculated on the NSRA website)
      b. The fundamentals of state policy of the Russian Federation in Arctic for the period up to 2020 and beyond (2008)

iii. The Strategy for the Development of the Arctic Zone of the Russian Federation and National Security up to 2020 (2013)

iv. Article 234 of UNCLOS establishes Russian navigation rules for the NSR, including:
   1. administration
   2. requirement of ice-breaker escort (Russian) depending on the ship and conditions- possibly contentious
      a. natural gas tanker Christophe de Margerie set a record in 2017 through the NSR, and didn’t use Russian ice-breakers (Norwegian Polar Institute)
      b. China is building its own icebreakers
      c. Ships could skirt north of Russian territorial waters to avoid escort requirements
      d. Russia is challenging its current territorial claims with an application to extend its continental shelf and the Arktika expedition that claimed Lomonosov Ridge

3. China considers itself a “near-Arctic state” and is present and investing for more future influence in the region
   a. By 2013, China succeeded in obtaining observer status in the Arctic Council
   b. China’s current presence in the Arctic is primarily for scientific research, fitting its claim that climate change in the Arctic will also affect China.
   c. China is making bilateral agreements with Arctic states.
      i. Free trade agreement with Iceland in 2013
      ii. Greenland in 2016 for scientific collaboration
iii. Russian-Chinese Polar Engineering and Research Centre (2016)
iv. The China National Offshore Oil Cooperation and the China National Petroleum Corporation are active in northern Canada and in the Dreki region between Iceland and Norway
v. China has agreements for investment in Russian natural gas exploitation in the Arctic
d. Chinese interests in the Arctic expressed in its 2018 Arctic Policy
   i. China wants to use Arctic sea routes for commercial ventures
   ii. China is continuing scientific climate research and exploration
   iii. China is interested raw resources in the Arctic
       1. investment in energy resource extraction with Arctic states and independently in international waters
       2. China is extending its fishing operations and advocates an international agreement concerning fisheries management
iv. China also wants greater involvement in Arctic governance, “The Arctic situation now goes beyond its original inter-Arctic States or regional nature, having a vital bearing on the interests of States outside the region...”
v. Development of security capabilities in the Arctic region
vi. China’s investment in NSR infrastructure could strengthen claims to its usage for greater presence in the AZRF

4. Territorial disputes
   a. Lomonosov and Alpha Mendeleev Ridges by Russia, Canada and Denmark (Greenland)
   b. Hans Island (Canada and Denmark)
   c. Beaufort Sea/Arctic Ocean boundaries for territorial seas and EEZ (United States and Canada)
   d. In 2009, Denmark agreed to Greenland’s right to self-rule. If Greenland pursues full independence it would also have sovereignty over its natural resources.
**Search and rescue infrastructure and communications**

There is presently limited search and rescue and communications platforms along the NSR, a problem concerning the increased activity on the route.

1. Existing cooperation on search and rescue:
   a. The Arctic Coast Guard Forum (est. 2015) includes all Arctic states organizing joint exercises and operations in Search and Rescue (SAR) and emergency preparedness
   b. The NSRA established in 2013, has the primary goal of ensuring safe navigation and the protection of the marine environment and assists in SAR as part of its mandate
   c. In 2009 Russia committed 910 million rubles (21.8 million euro) for 10 SAR centers along the NSR: Murmansk, Arkhangelsk, Naryan-Mar, Vorkuta, Nadyrn, Dudinka, Tiksi, Pevek, Provideniya and Anadyr (Lalonde, 58).
      i. 3 centers, and a maritime rescue coordination center are complete with search and rescue boats, fire departments, off-road vehicles, snow scooters, diving and oil-spill clean-up equipment
   d. UN Arctic Search and Rescue Agreement

2. Rescue infrastructure and communications are limited by: (Stubbs, 2016)
   a. Insufficient hydrographic mapping and navigational aids
   b. Limited NSR infrastructure
   c. Lack of modern communications
   d. The inability to observe the Arctic from space

3. Increased Russian military bases along the NSR are expected to aid in SAR for:
   a. Rapid response
   b. Surveillance
The Limited Authority of Arctic and Governance Structures

The current and often-overlapping governance structures of the Arctic are inter-governmental cooperative bodies relying on soft-power agreements. They are limited in how they can respond if agreements aren’t respected. As the Arctic brings more activity and infrastructure development, new issues may arise that governing organizations do not have the capacity to address.

Current Arctic organizations:

a. The Arctic Council (since 1996) created to provide a forum for heads of state to communicate and collaborate. Addresses primarily environmental concerns.
   i. The Arctic Marine Shipping Assessment (2009) applies to shipping routes
b. The Arctic Circle- organizes forums and assemblies for open international dialogue including governments, NGOs, think tanks, universities, corporations and indigenous communities
c. Barents Euro-Arctic Region (BEAR) Council (1993) is two-level intergovernmental (Barents Euro-Arctic Council) and interregional (Barents Regional Council) the objective is sustainable development
   i. BEAR may impact the NSR through its work with the EU Northern Dimension Program on Transport and Logistics. Plans are to improve coastal shipping and sea safety, while linking railway and port systems. (Stokke, 236)
d. The Northern Forum- includes a Board of Governors for policy making, a regional coordinators committee (the 14 regions are mostly Russian, with 1 Icelandic, 1 US, 1 Finland and 1 Korean), regional members and a business partnership
The Risks of Russian exclusion

Sanctions against Russia for the annexation of Crimea, delayed and cancelled Arctic infrastructure development projects. Likewise, exclusion from participation in multinational events and conferences on the Arctic breaks-down communication and cooperation on plans that impact Russia, creating potential for misunderstandings and heightened tensions.

2. EU, US, Canadian and Norwegian sanctions against Russian gas and oil companies since 2014, ended development of several Arctic projects
3. Political repercussions against Russia:
   a. The 2015 cancellation of the Chiefs of Defence meeting of Arctic members
   b. Russia was excluded from the Arctic Security Forces Roundtable in 2014 and 2015
4. A reason for the period of enhanced collaboration in the Arctic in the 1990s and 2000s was the inclusion of Russia at the end of the Cold War. Russian scientists and government officials could interest directly with Western counterparts. Barring Russian participation invites retaliation, or in the very least a lack of progress on regional issues.
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