

SECURITY CHALLENGES IN THE HIGH NORTH

Report

Jean-Charles LARSONNEUR (France) Rapporteur

016 DSCTC 21 E rev.2 fin| Original: French | 9 October 2021

TABLE OF CONTENTS

INTRODUCTION						
II. NATO'S NORTHERN FLANK – HISTORICAL STRATEGIC SIGNIFICANCE AND EMERGING INTERESTS						
А. В.	POS	T-COLD WAR ARCTIC: A REGION OF "PEACEFUL COOPERATION" VIA THE	2 2 2			
THE						
A. B.	RICH	I NATURAL RESOURCES UNDER THE ARCTIC SEABED (AND IN THE	3			
C. D. E.	TERI THE	RITORIAL CLAIMS AROUND CONTINENTAL SHELVES IN THE ARCTIC ARCTIC TOURISM BOOM	5 5 8 9			
ALLI A.			10 10			
В.	1. 2. 3. CHIN	THE ARCTIC AS A GUARANTOR OF RUSSIA'S FUTURE DEVELOPMENT AND PLACE IN THE INTERNATIONAL ECONOMY SIGNIFICANT MILITARY REINVESTMENT INCREASED RUSSIAN MILITARY ACTIVITY AND BRINKMANSHIP IA	10 11 13 13			
THE A. B.	THE	CAUTIOUS EVOLUTION OF NATO'S APPROACH	14 14 15 15 16 17 18			
			18			
CONCLUSIONS FOR NATO PARLIAMENTARIANS						
			25			
	NATEME A. B. THE A. B. C. D. E. ALLI A. B. THE A. B. CON	NATO'S NO EMERGING A. THE B. POS' ARC' THE 21 ST (A. NEW B. RICH WAT C. TERFORM THE E. EVOICAL THE E. EVOICAL THE HIGH A. THE HIGH A. THE B. THE 1. 2. 3. 4. EXISTING ARCTIC CONCLUS	NATO'S NORTHERN FLANK – HISTORICAL STRATEGIC SIGNIFICANCE AND EMERGING INTERESTS A. THE COLD WAR ARCTIC: A REGION OF MAJOR STRATEGIC IMPORTANCE B. POST-COLD WAR ARCTIC: A REGION OF "PEACEFUL COOPERATION" VIA THE ARCTIC COUNCIL THE 21 ST CENTURY ARCTIC A. NEW WAYS TO NAVIGATE THE ARCTIC B. RICH NATURAL RESOURCES UNDER THE ARCTIC SEABED (AND IN THE WATER) C. TERRITORIAL CLAIMS AROUND CONTINENTAL SHELVES IN THE ARCTIC D. THE ARCTIC TOURISM BOOM E. EVOLVING SEARCH AND RESCUE COOPERATION ALLIED COMPETITORS' GROWING ARCTIC AMBITIONS A. RUSSIA 1. THE ARCTIC AS A GUARANTOR OF RUSSIA'S FUTURE DEVELOPMENT AND PLACE IN THE INTERNATIONAL ECONOMY 2. SIGNIFICANT MILITARY REINVESTMENT 3. INCREASED RUSSIAN MILITARY ACTIVITY AND BRINKMANSHIP B. CHINA THE HIGH NORTH: ONCE AGAIN A FOCUS OF ALLIED ATTENTION A. THE CAUTIOUS EVOLUTION OF NATO'S APPROACH B. THE SPECIFIC ROLE OF ALLIES AND PARTNERS 1. NORDIC ALLIES AND PARTNERS 2. THE UNITED STATES AND CANADA 3. THE UNIQUE CASES OF THE UNITED KINGDOM AND FRANCE 4. OTHER ALLIES EXISTING WAYS AND MEANS FOR COOPERATION: THE ESSENTIAL ROLE OF THE ARCTIC COUNCIL			

EXECUTIVE SUMMARY

Receding ice is expanding access to surface transit routes and subsurface resources in the Arctic, which are predicted to have a seismic impact on global trade and commodities markets. Greater access to the Arctic is driving increased attention to the region – from both Arctic and non-Arctic states.

Competing investments and visions of the Arctic's future risk changing its post-Cold War reputation from a region of peaceful cooperation to one of great power competition. Driving this new reality are two principal factors: a widening policy divergence between NATO Allies and Russia in the Euro-Atlantic area; and the growing effort by non-Arctic states, such as China, to claim a future stake in the 21st-century Arctic.

As Arctic economic activities grow, military investments are following close behind to protect new as well as long-standing interests. New Russian military investments have been the most significant, as the country increasingly faces a new exposed northern coast. China is also seeking the ways and means to expand its economic footprint and scientific research across the region – experts believe much of this is laying the groundwork for an eventual military presence.

Allies are taking steps to adapt their capabilities to defend current and potential future interests in the High North. A key shared concern is the maintenance of Allied freedom of navigation as the Arctic Sea lanes will continue to grow in strategic importance. The upcoming review of the Strategic Concept offers Allies the opportunity to reflect in depth on NATO's approach to the rapidly evolving Arctic.

This report reviews the growing strategic relevance of the 21st century Arctic, and the subsequent impact increased attention to the region may have on the international security environment in general, and the Alliance's High Northern flank in particular.

I. INTRODUCTION

- 1. Significant environmental, economic, and geopolitical evolution in the Arctic is a key concern for Allies. Climate change is the key transformative motor creating a 21st century Arctic, allowing for unprecedented (and longer) access to increasingly higher latitudes north. Receding Arctic ice is expanding access to surface transit routes and subsurface resources, which could have a considerable impact on global trade and commodities markets.
- 2. As the Arctic's climate changes to allow for greater access, it is moving away from the periphery of international relations toward the centre. Two key developments are driving this shift in attention. The first is the crossover of the widening policy divergence between NATO Allies and Russia, which threatens to spill over great power competition into the region. The second is the growing effort by non-Arctic states, led by China, to claim a future stake in the 21st century Arctic.
- 3. The newly accessible Arctic is drawing increased economic and military investments by all eight Arctic states, as well as an expanding number of external actors. Russian military investments have been the most significant, but so have Russia's investments in its Northern Sea Route to facilitate economic development across its Arctic region. China is increasingly seeking new ways and means to expand its Arctic footprint via economic investments and widespread scientific research to shore up what it hopes will become its Polar Silk Road concerns are mounting among some experts about these efforts laying the groundwork for a possible Chinese military presence in the region.
- 4. Allies are certainly not blind to the growing importance of the High North and the new realities of the 21st century Arctic. As such, they are taking steps to adapt their capabilities to defend current and potential future interests in the High North. A key shared concern is the maintenance of Allied freedom of navigation as Arctic Sea lanes will continue to grow in strategic importance.
- 5. Historically, NATO's Arctic Allies have had divergent views about what role (if any) NATO should have in some parts of the region. As a result of this lack of consensus, broader strategic thinking and collective NATO action toward the High North has remained off the table. As a result, Arctic Allies have dictated a more cautious, *ad hoc* approach to the region under their leading auspices. Due to the growing attention to the Arctic, however, there is increased advocacy for Allies to do more in the Arctic. The announced Strategic Concept revision, however, may provide Allies the opportunity to outline more clearly their understanding of NATO's approach to the Arctic today.
- 6. This report highlights the growing strategic relevance of the 21st century Arctic. It then reviews the key variables driving an increasingly global interest in the region; highlighting the subsequent impact these are having on the international security environment in general, and the Alliance's High Northern flank in particular. It concludes with recommendations for NATO parliamentarians as they consider the issue and debate their own national interests and investments in the High North.

II. NATO'S NORTHERN FLANK - HISTORICAL STRATEGIC SIGNIFICANCE AND EMERGING INTERESTS

A. THE COLD WAR ARCTIC: A REGION OF MAJOR STRATEGIC IMPORTANCE

- 7. Despite large parts of the Arctic being mostly frozen over with sheet ice for the majority of the year, the region was strategically significant throughout the Cold War. The north pole presented the shortest flight path for US and Soviet ICBMs and long-range bombers to their targets. And the expansive, frigid, and deep waters provided a unique form of cover for submarine operations. The Arctic also offered two areas to spill forces out into either the Atlantic or the Pacific, from which the Soviet Union probed for weak spots.
- 8. Due to these strategic possibilities, the Arctic region was quite militarised. To defend its northern coast, the USSR erected an array of air bases, naval ports, as well as radars and air defence systems. The advent of the Delta-class SSBN in 1973 allowed the USSR the theoretical ability to launch its missiles to targets in North America (Dyndal, 2017). To protect these key strategic assets, the USSR built up significant bastion defences set up around the Kola Peninsula in the Barents Sea and, later, in the Sea of Okhotsk. Over time Moscow dedicated over three quarters of the Northern and Pacific Fleets' attack submarines, almost the entirety of their surface fleets, and hundreds of aircraft to the defence of its SSBNs (Delta and, later, Typhoon-class).
- 9. To defend and deter against potential Soviet air and sea threats emanating from the Arctic, Allies also invested heavily in the region. The United States and Canada worked together, via the establishment of the North American Air Defense Command (NORAD) in 1957, to develop and deploy the intelligence, surveillance, and reconnaissance (ISR) assets (from radars to aircraft) necessary to detect and counter Soviet long-range bombers and evolving missile threats (Winkler, 1997; Holroyd, 1990)¹.
- 10. The Greenland-Iceland-UK (GIUK) gap represented the line south that Soviet forces needed to reach to disrupt transatlantic supply lines between North American and European Allies, which would be vital to any Allied major war effort on the European continent and, before the evolution of its SLBM capacity in the 1970s, its nuclear strike missions. To protect the GIUK gap, Allies invested heavily in ISR capabilities across their area of responsibility in the High North. These ranged from maritime patrol aircraft and surface ships to submarines and a complex array of undersea sonar installations (Long & Green, 2014; Smith & Hendrix, 2017). Allied forces also regularly engaged in cold weather interoperability training exercises, and High North patrols at sea and on land.

B. POST-COLD WAR ARCTIC: A REGION OF "PEACEFUL COOPERATION" VIA THE ARCTIC COUNCIL

- 11. In 1987, General Secretary Mikhail Gorbachev, gave a speech in Murmansk signalling the USSR's desire to foster 'peaceful cooperation' in the region (Gorbachev, 1987). After the collapse of the Soviet Union, the Arctic did indeed become an area of 'high north, low tension', relatively isolated from global rivalries (Lanteigne, 2019). Further, as the new Russian state emerged significantly weakened after the collapse of the Soviet Union in 1991, and NATO Allies became focused on regional stability operations in the Balkans and then expeditionary counterinsurgency and counterterrorism operations, the Arctic faded in strategic importance.
- 12. As a result, many Arctic assets, considered no longer useful, were decommissioned, retired, or withdrawn as they became unnecessary. In parallel, key skills in areas such as anti-submarine warfare and significant cold weather interoperability training atrophied. In place of Cold War

2

A key element of this being the Distant Early Warning (DEW) Line system of radar stations stretching from the far northern reaches of Alaska and Canada and across to Greenland and Iceland (Canada DND, 2018). The DEW was replaced by the North Warning System (NWS) in 1988, which is still in service.

militarisation, efforts by all Arctic states reflected a genuine desire to indeed make the region one of peaceful cooperation. The formation of the Arctic Council in 1996 is emblematic of these efforts.

13. The Council decided to focus on regional environmental protection and sustainable development issues (Murray, 2014). The Council's founding eight Arctic states (Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the United States) granted permanent participation status to the principal organisations representing the region's indigenous population, as well as observer status to a range of state and non-state actors with Arctic interests.²

III. THE 21st CENTURY ARCTIC

- 14. Today's Arctic is vastly different than during the Cold War. Accelerated climate change is warming the Arctic at three times the global mean (Berardelli, 2020). This dramatic temperature shift is translating into rapidly disappearing ice sheets and sea ice, disrupted air and sea currents, and, as a result, significantly changing regional ecosystem and geography (IPCC 2019; NASA, 2020).
- 15. Arctic climate change is having significant surface and subsurface effects that are driving increased attention to the region from both the eight Arctic states, as well as a growing number of external actors. There are three principal categories of potential expanded economic opportunity in the Arctic commercial transit, seabed mining and excavation, and fishing.
- 16. Retreating ice sheets and sea ice are allowing for longer and wider access to Arctic shipping lanes for commercial transit. Less ice also means potentially easier access to the bounty of natural resources predicted to be on the Arctic seabed. Warmer waters in the North Atlantic and Pacific are also driving ocean fish stocks further north in search of the colder waters they need to survive.
- 17. While these changes have the potential for significant economic impact, the longer-term trends of climate change in the Arctic will likely have significant broader security implications extending far beyond the Arctic Ocean. The pull of increased access and economic opportunities is driving significant new (or planned) infrastructural investments and, to a degree, military investments to protect them. In parallel, however, it is becoming increasingly clear the region is no longer peripheral to the new 'great game' between the great powers. As elements of this new great game spill over into the Arctic, the region risks losing its unique character as a zone of peaceful cooperation.

A. NEW WAYS TO NAVIGATE THE ARCTIC

18. The retreating ice offers two principal transit avenues through the Arctic, the Northern Sea Route and the Northwest Passage. The **Northern Sea Route (NSR)** extends approximately 4,800 km along Russia's Arctic coastline, but lengths vary according to the lane selected and ice conditions. The **Northwest Passage (NWP)** weaves through the archipelagos of Canada's high north. While the NWP is a less viable route due to higher volumes of ice and more narrow and shallow straits, the NSR is already a viable shipping route for part of the year.

Thirteen countries - Germany, the Netherlands, Poland, the United Kingdom (1998), France (2000), Spain (2006); China, South Korea, India, Italy, Japan, Singapore (2013); Switzerland (2017) -, a large number of inter-parliamentary and inter-governmental organisations (including some UN bodies) and eleven NGOs have observer status at the Arctic Council. The observer members included in 2013 are for the first time non-European states; they thus bring the share of the world's population represented in the forum to 50%, which contributes to the global legitimacy of the Council, according to the wish of the Swedish chairmanship to strengthen the Arctic Council to make it the pre-eminent forum for regional issues. For more information see: http://www.observatoire-arctique.fr/approche-institutionnelle/les-organisations-et-forums-de-larctique/conseil-de-larctique/

Examples of Distances between Northern Hemisphere ports, transiting Panama, Suez and Malacca or the Arctic Passages (political obstacles to navigation are not considered)

Origin—Destination	Panama	Northwest Passage	Northeast Passage	Suez and Malacca
Rotterdam—Shanghai	25,588	16,100	15,793	19,550
Bordeaux-Shanghai	24,980	16,100	16,750	19,030
Marseilles-Shanghai	26,038	19,160	19,718	16,460
Gioia Tauro (Italy)—Hong Kong	25,934	20,230	20,950	14,093
Barcelona—Hong Kong	25,044	18,950	20,090	14,693
New York—Shanghai	20,880	17,030	19,893	22,930
New York—Hong Kong	21,260	18,140	20,985	21,570
Rotterdam—Los Angeles	14,490	15,120	15,552	29,750
Lisbon—Los Angeles	14,165	14,940	16,150	27,225

Source: China's Arctic ambitions and what they mean for Canada, Lackenbauer, P. Whitney; Lajeunesse, Adam; Manicom, James; Lasserre, Frédéric, University of Calgary Press, 2018

- 19. In 2020, the NSR was ice-free for a record 88 days, and Russian LNG ships proved in 2021 that winter transit along the route is possible without icebreaker assistance (Maritime Magazine, 2020: Maritime Executive; 2021b). Cargo along the NSR is mostly Russian ships moving oil and gas along the western half of the route. Chinese ships are the second-most recorded vessels and come along the entire route (Humpert, 2020). Conversely, due to shifting ice patterns, vessel transit in the NWP declined in 2020.
- 20. Experts at the OECD have predicted the volume seaborne trade could double by 2035 congested sea lanes of communication (SLOCs) will certainly drive some to seek alternative routes (OECD, 2018). Still, when compared with Suez Canal traffic, the NSR pales in comparison: In 2020, almost 19,000 ships carried 1.17 billion tons through the Egyptian canal (Maritime Executive, 2021a). There are two main segments than could be interested in utilising the Northern Sea Route (liner-shipping, which consists of container ships, and tramp shipping, mostly consisting of bulk shipping). But for them, there are more limitations than advantages when it comes to Arctic sea traffic (Danilov, 2021).

B. RICH NATURAL RESOURCES UNDER THE ARCTIC SEABED (AND IN THE WATER)

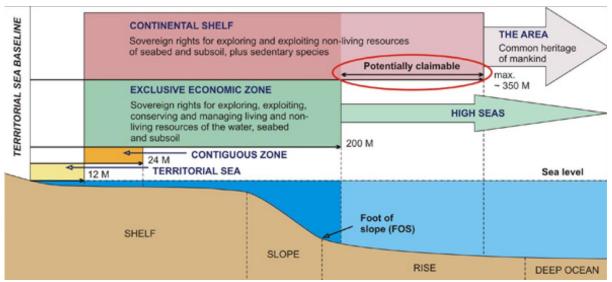
- 21. There is also significant new economic potential in the Arctic. Estimates vary and new discoveries are possible with increased access to the region, but experts still often cite a 2008 US Geological Survey study, which remains highly hypothetical, that suggests the Arctic may hold 13 percent of the globe's oil and 30 percent of its existing gas reserves (USGS, 2008). In addition, deposits of other valuable minerals such as nickel, copper, gold, tin, silver, and zinc are seen as potentially economically significant (Glasby, 2010; Bergquist, 2020). The presence of "rare earth" metals, particularly in Greenland, which is said to contain 25% of the world's reserves, could provide an alternative to the Chinese monopoly on the production of these strategic metals. New discoveries are just over the horizon: for example, in 2020, Norwegian scientists identified what could be USD \$100bn worth of mineral deposits, including gold, silver, and zinc on the seabed (Bergquist, 2020).
- 22. In addition to the deposits under the Arctic seabed, the ocean's waters are also filling up with fish as warmer waters to the south push stocks north in search of cooler water for their survival. The Arctic Ocean already accounts for 10 percent of global commercial fishing. (AMAP, 2018) Experts estimate that this will grow as the North Atlantic and Pacific continue to warm, themselves representing 40 percent of global fishing (UN, 2020).
- 23. These new perspectives for commercial fishing, shipping, and energy development are pushing Arctic states to delineate their sovereign boundaries on the continental shelf in an effort to pave the way for peaceful exploitation of the region's potential bounties.

C. TERRITORIAL CLAIMS AROUND CONTINENTAL SHELVES IN THE ARCTIC

24. The question of the exact delimitation of a large area of the northernmost Arctic territories remains in question, with the United Nations Convention on the Law of the Seas (UNCLOS) suggesting mechanism for arbitration to determine the legitimacy of access to resources on the Arctic seabed. The geography of the continental shelves of the coastal states plays a determining role. Continental shelves are defined as the natural underwater extension of the land mass of a territory, including the seabed and sediments of the shelf, the continental slope, as well as the continental rise. According to UNCLOS, which came into force in November 1994, every UN-recognised state has sovereignty over its coasts within a radius of 200 nautical miles, an area constituting an Exclusive Economic Zone (EEZ). However, according to Article 76 of UNCLOS, if a continental shelf extends beyond these 200 nautical miles, a state has the right to explore and exploit the natural resources of the shelf within this extension (Hosain, 2021).³ In order to claim this right, a state cannot simply proclaim possession, but must submit a submission to the United Nations Commission on the Limits of the Continental Shelf (CLCS). This commission then makes a decision based on a geological and geomorphological study of the seabed, which can then lead to negotiations between countries (Herrmann and Raspotnik, 2019).

a depth of 2500 meters.

Furthermore, this zone is limited to a maximum of 350 nautical miles from the coast, regardless of whether the continental shelf extends beyond that point; or a maximum of 100 nautical miles from the point where the depth of the water column reaches 2,500 meters. An exception exists for submarine elevations (such as the Mendeleyev and Lomonosov ridges): in this case, the right to the continental shelf may extend beyond 350 nautical miles, provided that the 100 nautical mile rule is respected from



Source: Herrman and Raspotnik, 2019

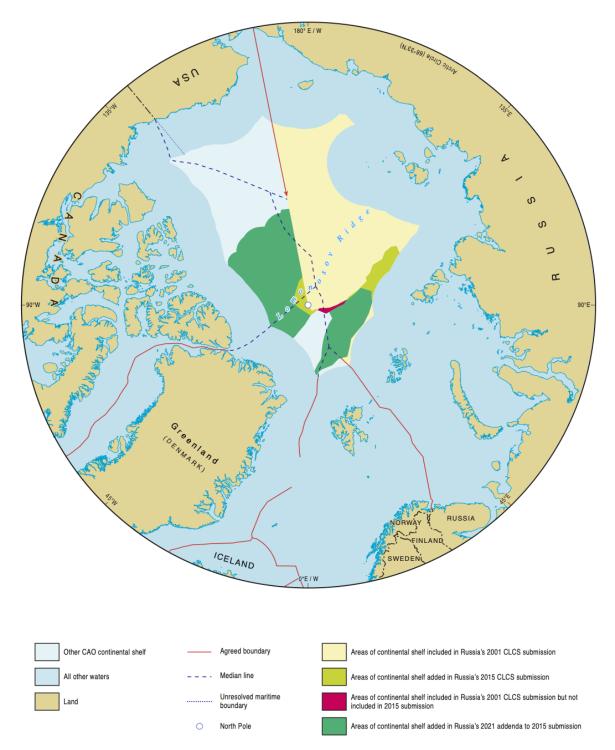
- 25. Currently, four UNCLOS member countries in the Arctic have submitted dossiers: Canada, Denmark, Norway, and Russia. The United States has also made a continental shelf extension submission, although it has not ratified UNCLOS (United Nations Division for Ocean Affairs and the Law of the Sea, 2021).⁴
- 26. However, possession of an extension of the continental shelf does not equate to sovereignty over these territories. The convention specifies that it equates only to a sovereign right to explore and exploit the resources present in the seabed and sediments. The water column (i.e., the water overlying the seabed) remains an integral part of international waters, as such freedom of navigation in and on the surface of the water column is maintained, and the question of shared access to fisheries resources remains open. This last point in particular could prove problematic in the Arctic in the future, as it is not regulated by UNCLOS. Northward migrations of fish populations and melting ice could reignite tensions over this resource but is worth noting that a moratorium on fishing in the Arctic high seas was decided in 2018, to be in place until 2034e (Overfield, 2021).
- 27. On March 31, 2021, Russia submitted a revised claim to the CLCS. This claim modifies a previous submission from 2015, which itself followed an initial 2001 application that was subsequently rejected due to scientific inadequacies. Between 2001 and 2021, Russia has increased the area it claims by approximately 100,000 km2, reaching a total of 1,191,347 km2 today (Hossain, 2021). This area is equivalent to 70% of the Arctic Ocean (excluding the EEZs) (Hossain, 2021). Russia's 2021 submission to the CLCS overlaps even more with the Central Arctic Ocean submissions of Canada and Denmark (Overfield, 2021). The new area includes an area from the North Pole to the EEZs of Canada and Greenland (Hossain, 2021). This updated Russian delineation is the result of geological data collection efforts since 2015, stemming from Russia's long-standing interest in the Arctic seabed (Breum, 2021).⁵

Despite not being a party to UNCLOS, the United States accepts and acts in accordance with the non-seabed mining provisions of the treaty, e.g., those pertaining to to navigation and overflight, which the US believes reflect customary international law of the sea (O'Rourke, 2021).

_

Notably staged by the underwater planting of a Russian flag at the North Pole in 2007.

Russia's evolving Central Arctic Ocean submission

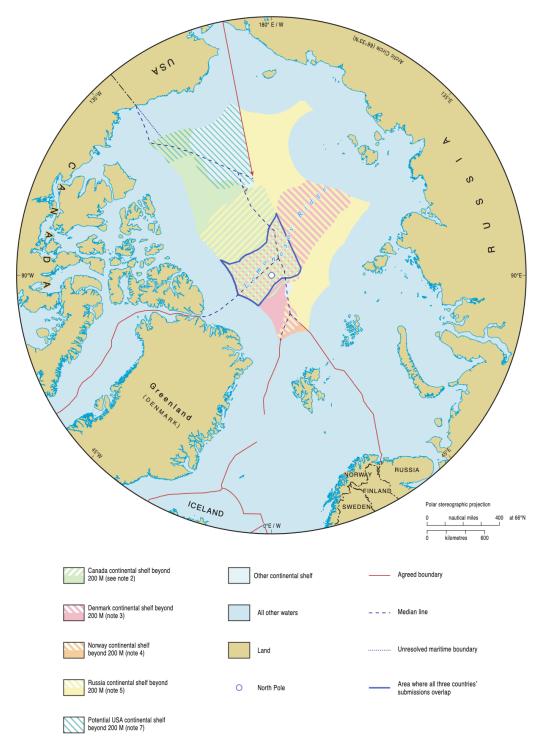


Source: (IBRU: Centre for Borders Research (a), 2021)

- 28. Denmark's claim submitted in 2014 extends from the EEZ extending off of northern Greenland through the North Pole to the Russian EEZ, while Canada's 2019 submission claims an area from its EEZ to the North Pole (Hossain, 2021). The overlapping Canadian, Danish, and Russian claims are indicated clearly in the map below.
- 29. Up until now, the delimitation process has been cooperative and consistent with international law (Overfield, 2021). In the 2008 Ilulissat Declaration, Canada, Denmark, the United States, Norway, and Russia expressed their willingness to resolve this dispute through the CLCS,

alleviating anxieties about possible future contentious disputes (Overfield, 2020; Hermann and Raspotnik, 2019). This was reiterated by the Arctic coastal states in 2018 celebrating the 10th anniversary of the declaration.

Continental shelf submissions in the Central Arctic Ocean



Source: (IBRU: Centre for Borders Research (b), 2021)

D. THE ARCTIC TOURISM BOOM

30. Increased access to the Arctic is also changing the face of tourism in the region. A recent study found a four-fold increase in summer tourism and a 600 percent increase in winter tourism in the Arctic from 2006-2016 (Runge, et. al., 2020). This tourism boom has been permitted by easier

accessibility through warmer temperatures and a melting ice cap, as well as an increased demand for so-called "extinction tourism" (D'Aprile, 2018). Such high volumes of ship traffic and port calls risks causing potentially significant damage to an already delicate regional ecosystem (Runge, et al, 2020). In addition, tourism impacts the communities already present in the Arctic, forcing them to adapt to the incoming flows of people, as well as shaping how cities and ports are upgraded and modernised in the region (Ren and Chimirri, 2018).

- 31. The Arctic cruise industry is growing throughout the circumpolar regions. The first cruise trip crossing the Northwest Passage in the Arctic Ocean took place in 2017 (D'Aprile, 2018). Alaska, Canada, Greenland, Iceland, Norway, and Russia are all witnessing record numbers of ships passing through their waters and docking at Arctic ports of call. For example, Cruise Northern Norway and Svalbard thus recorded 150,000 cruise passengers in 2018, up 16 percent from 2017 (Quinn, 2019). The Arctic cruise industry, however, was particularly hard hit by the COVID-19 pandemic related travel restrictions, with many tourism companies desperately trying to sell off assets (Staalesen, 2021b). The industry is, however, to continue its high growth rate as tourism returns in the wake of the pandemic.
- 32. Yet today's cruise ships are generally equipped for cruises in the Caribbean or Norwegian Fjords, not for Arctic high seas; creating additional risks as ships are often asked to pass close to icebergs due to touristic demand (D'Aprile, 2018). Regional experts note concern that such high volumes of tourism may overwhelm regional states' already strained search and rescue (SAR) capacities.

E. EVOLVING SEARCH AND RESCUE COOPERATION

- 33. As more ships sail through the region, there is a parallel rise in ship casualties. For example, since 2009 between 40 to 70 ship casualties have been recorded in Arctic waters annually (O'Rourke, 2021). Incident in which a cruise ship experienced engine failure in bad weather is a reminder of the complexity of SAR intervention. The 1373 people on board had to be rescued by helicopter as conditions did not allow for the use of lifeboats and tugs (Quinn, 2019). This is significant, as long distances and severe weather, coupled with a poor communications network and a general lack of infrastructure the further ships go north, make Arctic SAR interventions particularly complex (O'Rourke, 2021). As such effective and capable SAR cooperation among Arctic states is critical. Over the past several decades, SAR cooperation among all Arctic states has become an essential means of building mission critical interoperability and fostering trust and dialogue on Critical Arctic issues.
- 34. Two legal agreements, both based on the 1979 International Convention on Maritime Search and Rescue, regulate Arctic SAR activities. The 2011 Agreement on cooperation on aeronautical and maritime search and rescue in the Arctic, concluded among member states of the Arctic Council, is a legally binding treaty formalising the duty of member states to 'promote the establishment, operation and maintenance of adequate and effective' SAR capabilities and intervene within defined territorial areas⁶ (Sydnes, 2017). The agreement permitted the creation of procedures for SAR requests, border crossings and information sharing (Sydnes, 2017). Member state cooperation happens at the level of a dedicated Arctic Council Working Group, called Emergency Preparedness, Prevention and Response (EPPR), as well as through a SAR Expert Group since 2015 (Sydnes, 2017). Joint exercises are organised to facilitate collaboration during operations.
- 35. The Barents SAR Agreement is a bilateral agreement between Norway and Russia, established in 1995. Officialising Norwegian-Russian collaboration in the Barents region which existed since 1956, the agreement has established procedures for "requesting SAR assistance, border-crossings and information sharing between the parties", as well as the annual Exercise

-

These boundaries are defined by the 1979 International Convention on Maritime Search and Rescue (SAR)

Barents, permitting regular and effective contacts between the two countries' SAR authorities (Sydnes, 2017; Nilsen (a), 2021). Although more limited in scope and number of actors, the Barents SAR Agreement gives way to more regular exchanges than the Arctic SAR Agreement (Sydnes, 2017).

36. In 2019 Norway launched a 5-year project, the *Arctic Security and Emergency Preparedness Network* (ARCSAR), with funding from the EU's Horizon 2020 Program. The initiative, focusing on SAR in the Arctic, aims to establish a vast international cooperation network for the region, extending beyond the Arctic States (Finne, 2019). ARCSAR also focuses on oil spill disaster management, which is a growing responsibility for SAR authorities in the Arctic, as the exploitation of natural resources in the region is set to grow (Finne, 2019; Nilsen (a), 2021).

IV. ALLIED COMPETITORS' GROWING ARCTIC AMBITIONS

- 37. The new potentialities of the 21st-Century Arctic are driving increased attention and investments (economic and military) by Arctic states and a growing number of non-Arctic states.
- 38. Due to the growing focus on the Arctic which, despite its relative size, has the potential to play a leading role in the global economy, the region's reputation as an area of peaceful and pragmatic cooperation in the interest of the simultaneously delicate and harsh environment will be tested. The following sections highlight new investments and activities by key players.

A. RUSSIA

39. Investment in the Russian Arctic declined significantly after the Cold War. Though Russian military attention to the region started to tick back up again at the end of the 2000s, new investments lagged. As a result, for decades Russia's Arctic was a chronically underfunded and structurally weak region. A new Arctic focus by Russia is relatively recent, and, among the Arctic states, Russia has made the most significant moves in recent years to develop the region both economically and militarily.

1. The Arctic as a guarantor of Russia's future development and place in the international economy

- 40. In May 2018, Vladimir Putin announced a series of 12 'national projects' aimed at modernising and revitalising the Russian economy and society. One announced boosting the volume of goods transiting on the NSR to 80 million tons by 2024 (Staalesen, 2018(a)). This represents an almost eightfold increase in the volume transiting the route in the year before the declaration.
- 41. Though experts, and even Russian government officials, are increasingly sceptical Russia will be able to achieve this goal, the May 2018 Decree benchmark has added significantly to an already growing attention by Russian business and government to the development of the Arctic (Moe, 2020; Staalesen, 2020(a)). In December 2018, Russian Minister of Natural Resources Dmitry Kobylkin announced plans to invest 5.5 trillion roubles (about EUR61bn or USD75bn) on regional infrastructure and natural resources development he noted the sum would almost triple to 13,5 trillion roubles by 2050 (Staalesen, 2018(b)). Only a fraction of the sum will be granted by the government, the rest is to come from Russian business.
- 42. The lure of the Arctic's natural resources is a strong incentive for Russian business, a full 10% of the Russian GDP and 20% of Russia's total exports are already Arctic-derived (Novy Isvestia, 2019). Russia's Arctic today accounts for more than 90 percent of the country's natural gas and approximately 17 percent of its oil production (Kluge and Paul, 2020). Untapped reserves

offer the potential for much more.⁷ As such, Rosatom, Novatek, Rosneft, Gazprom, Nornickel, and others will invest the balance needed for the government's ambitious Arctic development plan to exploit and benefit from the significant reserves of gas, oil, nickel, copper, and coal in the region (Staalesen, 2018; Kluge and Paul, 2020).

- 43. According to former Prime Minister Medvedev, the focus of the development along the NSR will be on 'anchor' projects to ensure year-round use meaning modern port facilities for oil and gas storage and transfer, connecting roads to extraction sites, etc. As experts note, however, there are some high hurdles to Russia's Arctic investment plans. Among the most significant are those due to climate change and ongoing international sanctions (Kluge and Paul, 2020).
- 44. As a result of the thawing permafrost in the region due to rising temperatures, experts estimate a full 70 percent of existing infrastructure will need to be upgraded/reconstructed to adapt to the new environment. Further, the lure of off-shore Artic oil and gas exploration is hampered by the lack of access to the necessary technologies due to continued Western sanctions on Russia (Kluge and Paul, 2020). The investment needed to enable the necessary linkages of the ports from West-to-East is, however, apparently still missing; while some significant investments have been made (or promised) by Chinese companies, there is a general Russian reluctance to allow China too much leverage in its Arctic enterprises (Hsiung, 2020; Pincus, 2020; Sun, 2018).
- 45. In light of the changes due to the rapid warming of the Arctic, Russia has sought to tighten its de jure and de facto control over the NSR in recent years. In December 2017, the Russian parliament adopted a law limiting coal, oil, and natural gas loading at NSR ports to Russian-flagged ships (Maritime Executive, 2019). In April 2019, Moscow announced it would attempt to tighten its control over the NSR by stating that foreign ships intending to traverse the route through Russia's Exclusive Economic Zone (EEZ) would be required to declare their transit intentions 45 days in advance, accept a Russian pilot aboard their ship for the duration of the voyage, and pay increased fees (Ilyushina, 2019).

2. Significant military reinvestment

- 46. On 6 March 2020 Russia released its Arctic strategy through 2035: *The Basic Principles of Russian Federation State Policy in the Arctic to 2035* (Basic Principles 2035). The document defines Russia's Arctic interests and goals for the region, with a ways and means framework to achieve them. Basic Principles 2035 departs from its 2008 predecessor (Basic Principles 2020) in two keyways; it notes the necessity of guaranteeing Russia's 'sovereignty and territorial integrity', and the goal of developing the NSR 'as a globally competitive national transport corridor' (Klimenko, 2020).
- 47. While the second is not surprising, given Putin's 2018 decree, underscoring the need to guarantee territorial integrity and sovereignty highlight Russia's concern of the reality of a new open border to defend. As Arctic access increases, and, if Russia is successful in developing the NSR, Russia is certainly exposing its Arctic flank to increased potential threat. Further, the Basic Principles 2035 document does underscore the perception of growing conflict potential in the Arctic as another driver of the need for an increased permanent expansion of Russia's military presence there.
- 48. Russia's 2017 naval doctrine states clearly the desire to make the country a modern naval power, capable of dominance in the Arctic and power projection into the Atlantic and Pacific access to both oceans is guaranteed by the NSR, which, therefore needs to be equipped with modern defence systems as well as upgraded commodity exchange infrastructure to meet its dual

.

For example, according to former Prime Minister Medvedev, Novatek's two LNG projects alone, the Yamal LNG and the Arctic LNG-2 will net an additional (and much needed) USD 30bn in foreign currency to Moscow's coffers and add an additional 40million tons annually shipped along the NSR. See Staalesen, 2018(b)

purpose (Gorenburg, 2017). Overseeing the region's security is the Northern Fleet, which is responsible for most of the Russian Arctic (to include the coastline and the NSR).

- 49. The Northern Fleet was upgraded to military district status as of 1 January 2021 (Humpert, 2021). Since 2014, the Northern Fleet had been operating as a joint strategic command (within the Western District) with geographic responsibilities (Arctic) that had been given additional both air and ground force capabilities. (IISS, 2015) Air force and air defence assets were consolidated into the 45th Air and Air Defence Army in 2015, under the broader command of the Northern Fleet. Its different components naval, air, and ground (special forces) participated significantly in Russia's operation in Syria as a means of both testing new equipment, as well as force interoperability (Staalesen, 2019(a)).
- 50. As noted in the DSC 2020 General Report on Russian military modernisation, the Northern Fleet had been a key recipient of the SAP 2020 funding to modernise the Russian naval forces (NATO PA, 2020(a)). A key focus of the modernisation has been the provision of new submarines the new Borei-II ballistic missile submarine (SSBN), for example, was delivered in 2020; the Akula II attack submarine returned to service in the same period; and the Russian Navy's most advanced multipurpose Yasen-M guided-missile submarine *Kazan* began sea trials in late 2020, joining its partner, the *Severodvinsk* (Nilsen, 2021; Novichkov, 2021; Brimelow 2021). Experts note the Kazan will deploy with the sea versions of the Kalibr and Oniks cruise missiles and new *Zirkon* hypersonic cruise missile, as well as torpedoes and surface-to-air missiles (Nilsen, 2021). In addition, the Northern Fleet also boasts the Oscar II *Belgorod*, the largest in the world, which is reportedly capable of carrying the planned long-range nuclear-armed autonomous torpedo (Poseidon), depositing nuclear reactors on the seabed, as well as serving as the launching platform for the Losharik deep-diving research vessel (Nilsen, 2019). The Poseidon torpedo is reportedly already undergoing testing in the Arctic (Walsh, 2021).
- 51. To defend its growing Arctic interests and achieve its naval defence ambitions, Russia is also making a concerted effort to upgrade its Arctic military infrastructure. Approximately 50 former Soviet-era Arctic outposts have been reopened and/or revamped in recent years (Kluge and Paul, 2020; Melino and Conley, 2020). In addition, Russia claims it has built 475 new military structures in its Arctic region since 2012 (Tass, 2019). These investments include bases, listening and radar stations, and seaports. In February 2021, Russia announced its intention to build more new bases along its northern Arctic border; noting a concern about increased Allied presence 'on Russia's borders' (AFP, 2021).
- Russia's military infrastructure investments stretch across Russia's European Arctic, with the most significant in the Kola Peninsula out to Novaya Zemlya. Tiksi, and the Kotelny and Wrangel Islands are key focal points moving out into Russia's Arctic outlet in the Pacific. Across these inlets and islands, Russia has reconstructed its concept of bastion defence with the installation of advanced air defence systems (S-300, 350, 400) and upgraded radars (Sopka-2) (Kluge and Paul, 2020; Melino and Conley, 2020). Russia has also stationed three Rezonans-N radars in its Arctic regions; two active in the Kola Peninsula and another in Novaya Zemlya, due to be combat ready in summer 2021 (Ong. 2021). The Rezonans radar is designed to counter hypersonic missile threats, being able to detect targets at a speed up to Mach 20 and acquire targets at 600km - with a range of 1,200km for ballistic missiles to an altitude of 100km (Ong, 2021). The coasts are also equipped with Pantsir-SA-22s and K-300P Bastion-P missile systems. It was recently reported that Russia has deployed (on a test basis) the supersonic interceptor Mig-31BM to its most northern military airbase (Rogachovo) on Novaya Zemlya Island, over 800km northeast of the Kola Peninsula, dividing the Barents and Kara Seas (Staalesen, 2021a). Russia's layered and comprehensive defence architecture in the Arctic fits the Western definition of an advanced A2/AD system (Melino and Conley, 2020).
- 53. Russia also increased its icebreaking ability to guarantee year-round access to even its most remote Arctic areas by investing in new nuclear-powered heavy icebreakers. The Russian fleet already has approximately 40 active icebreakers there are plans to build another 13 heavy-duty icebreakers (nine nuclear powered) by 2035 (Reuters, 2019). By contrast, the United States has

two operational icebreakers (one heavy, the other medium – though it is investing in more) and China will soon have three; one acquired, the other domestically built, and it is seeking to build a nuclear-powered model in the near future (Rodman, 2019; O'Rourke, 2021).

3. Increased Russian military activity and brinkmanship

- 54. As NATO experts informed DSC members during a 2015 visit to Norway, Russian military activity in the Arctic revived in earnest around 2006, which was evidenced by an increase in the number of air force sorties and naval activities. Still, as briefers noted at the time, the activity of Russian Arctic fighter jet sorties up until 2014 averaged around 10 percent of Russian military activity in the region during the Cold War.
- 55. Since 2014, the scale and scope of Russian military presence, exercises, and demonstrations of force in the Arctic have evolved significantly. In early 2014, for example, Russian Su-27 Fighters and Tu-22M bombers simulated attack runs against Poland, the Baltic nations, and Sweden. Russian submarines have disrupted NATO exercise in the High North, and in October 2019, ten Russian submarines slipped down the coast of Norway to the North Atlantic in the biggest coordinated submarine manoeuvre since the Cold War (Kluge and Paul, 2020).
- Russia has also significantly increased its military exercising in the Arctic. In 2015, a large-scale, no-notice 'snap' exercise involved a significant Arctic element, wherein 40,000 troops, 100 aircraft and 40 ships and 15 submarines conducted complex exercises - one involving a carrier group, fighters, bombers, and submarine targeting aircraft providing cover for a large-scale airdrop on Franz Josef's Land. Russia's annual strategic exercises have been growing in size and scope over the last decade and have also increasingly had Arctic elements – particularly Vostok 2018, and, to a degree, Tsentr 2019, wherein Russia tested equipment and service interoperability in the Arctic to demonstrate the ability to defend the region's growing investments along the Northern Sea Route. In addition, the Russian Navy's annual Ocean Shield exercise has grown in size and complexity in recent years and focused on demonstrating Russia's new Arctic military capabilities. In what could be viewed as a direct response to NATO's 2018 Trident Juncture (TRJE18), Russia's Ocean Shield 2019 witnessed 30 Russian naval vessels (surface, submarine, and supply ships) engage in a complex demonstration of the modern Russian Navy's ability to block NATO's access to the Baltic, North, and Norwegian Seas (Staalesen, 2019). During the Umka-21 exercise in March 2021, three Russian nuclear ballistic submarines surfaced simultaneously through 1.5-meter-thick ice, within a 300-meter radius, during exercises - the extremely challenging and sophisticated manoeuvre was meant as a demonstration of Russia's growing military prowess in the Arctic (Reuters, 2021a). Russia also plans to organize exercises in the region with its Su-34 and Su-35 fighter jets, as well as the B-200 amphibious planes, to test their abilities in cold environments (Bratersky, 2021).
- 57. These examples are not complete, but rather representative of the steady uptick in military brinkmanship. It should be noted, however, Russia systematically notifies about its regional exercises. As Norwegian Air Force Command briefers told a DSC delegation in 2015, the quality of Russian forces' activity in the Arctic has been steadily improving air and naval forces are capable of operating in larger formations and perform more complicated tasks on longer and more challenging routes. Concerns among NATO Allies are that Russian forces' improving firepower and manoeuvrability throughout the Arctic reduces the warning time and complicates threat analysis.

B. CHINA

58. In 2018 China raised eyebrows with the publication of its Arctic Policy. Therein, China presents itself as a 'near-Arctic' state and that the country sees the opening transit routes as added SLOCs for its Belt and Road Initiative – called the 'Polar Silk Road', for which it outlined a basic economic plan in the document (PRC, 2018). While the policy document sticks to economic, environmental protection, and international cooperation in the region, it did elicit the question about a Chinese military expansion in the region to protect its potential future Arctic interests (Sengupta, 2019; Pincus, 2018).

- 59. China has been working to find investment partners across almost every Arctic nation. China is seeking to find the ways to contribute to, and thereby anchor a stake in, Russia's NSR development. Already, China's National Petroleum Corporation (CNPC) acquired a 20% investment holding in the Yamal Peninsula LNG 1 project. In April 2019, the CNPC and China National Offshore Oil Corporation (CNOOC) each purchased a 10 percent stake in the Yamal Arctic LNG 2 project. The Export-Import Bank of China and the China Development Bank also reportedly loaned the equivalent of 11bn USD in another to Russia (Wishnick, 2021). Beijing is reportedly lined up to support other efforts in the oil, gas, and mining sectors along the route (Sengupta and Meyers, 2019). It is working to expand its mining of rare earth minerals in Greenland, China is also actively promoting research activities in Iceland and Norway. (Eiterjord, 2019; Lino, 2020).
- 60. An ice-free and China-friendly NSR would be an economic boon, the distance between Shanghai and German ports is 4,600kms shorter along the NSR than through the Suez Canal (Lino, 2020). China's ability to increase its stake in the range of projects to develop the natural resources underneath the Arctic seabed are also luring Beijing in further. Finally, between the surface routes and the seabed lies the potential of significant new fish stocks China consumes more fish globally than any other country and is increasingly driven further away from its own shores due to pollution and overfishing (Hoag, 2016).
- 61. Chinese Arctic military activity has been, thus far, quite limited. The Russia-China joint Arctic exercise the US Coast Guard made public recently, as mentioned below, remains a relative anomaly (Larter, 2020). Many experts believe China's increased scientific activities in the region, alongside its clear interest in gaining an economic foothold via a range of investment activities from investment in NSR ports to buying mining rights or operations, is an exploratory effort to get a clearer picture to enable a future naval deployment in the region (Pincus and Berbrick, 2018).

V. THE HIGH NORTH: ONCE AGAIN A FOCUS OF ALLIED ATTENTION

A. THE CAUTIOUS EVOLUTION OF NATO'S APPROACH

- 62. While Russia's Arctic coastline may account for just over 50 percent of the total Arctic Ocean coastline, NATO Allies represent the rest. And, of the eight official Arctic states, five are NATO Allies (Canada, Denmark, Iceland, Norway, and Iceland) and two (Finland and Sweden) are NATO Enhanced Opportunity Partners. As such, the Alliance has a clear security interest in the High North.
- 63. As noted above, the Alliance maintained an active and watchful presence in the Arctic throughout the Cold War. While this was principally upheld by the Alliance's Arctic states themselves, many other non-Arctic states participated in Alliance activities in the High North from exercises to surveillance patrols. Continued divergent viewpoints⁸ among Allies about the exact role NATO should have in the Arctic blocks policy consensus. Despite this, the historical understanding that NATO Arctic states take the lead, or even act alone, with regards to any NATO activity in the Arctic continues to prevail.
- 64. The lack of Allied consensus about NATO's role in the Arctic has kept the region largely out of official documents and statements. As such, the Alliance has no official security concept for the region. Yet, the Alliance has always had a presence in the High North Atlantic and Arctic with no defined *northern* limit; meaning for practical purposes SACEUR's Arctic ends where NORAD's Arctic begins.

Even using the two terms simultaneously, NATO and Arctic, has pushed some NATO Arctic States to advocate for the region to be referred to simply as the *High North*.

- 65. In recent years, however, and in reaction to increased military activities in the region by Russia, particularly after 2014, as mentioned above, Allies and their partners in the region have been forced to reassess their strategic focus on the Arctic. One of the strategic guidance documents produced by NATO (Strategic Foresight Analysis) highlights the rapid changes in the Arctic and aims to guide the Alliance's action in the light of these strategic developments. As NATO Secretary General Jens Stoltenberg told members of the NATO Parliamentary Assembly during its 2015 Annual Session in Norway, "The High North is important for NATO Allies together, it is our common northern flank...We must understand that Russia's posture in the area is changing." (NATO PA, 2015). The growing interest in the Arctic by non-Arctic countries and the resurgence of exploratory activities led by China have further complicated the regional security environment (Sengupta, 2019).
- 66. In parallel to NATO's significant adaptation of its defence and deterrence posture since 2014, most notably in Europe, the Alliance also made parallel moves to increase defence capabilities in the North Atlantic. The 2018 Brussels Summit established Joint Force Command Norfolk to oversee the protection of transatlantic lines of communication and Alliance anti-submarine warfare activities which signalled a renewed strategic attention to threats capable of descending from the High North to disrupt Allied freedom of manoeuvre in the North Atlantic. Later that year, the Alliance executed TRJE18, its largest exercise since the Cold War, which practiced complex large-scale transatlantic air, land, and sea manoeuvres, with a specific focus of reinforcing Norway in a crisis. Iceland, Finland, and Sweden were also hosts of TRJE18.
- 67. In October 2020, NATO announced a memorandum of understanding between Allied Maritime Command (MARCOM) and the Danish Joint Arctic Command (JACO) to help complete SACEUR's picture of the GIUK GAP. JACO has a mandate of surveilling and enforcing the sovereignty and military defence of Greenland and the Faroe Islands: As NATO MARCOM notes, JACO's area of responsibility is vast, "from the Faroe Islands to the Greenland Sea and the Arctic Sea to the North, and across thee Denmark Strait and Irminger Sea to the Davis Strait and Baffin Bay" (MARCOM, 2020).
- 68. At NATO's Brussels Summit on 14 June 2021, Allies noted they would maintain a collaborative approach to maintaining Allied and partners' security interests regarding developments in the High North. As the summit communiqué notes clearly:

"In the High North, we will continue to undertake necessary, calibrated, and coordinated activities in support of the Alliance's security interest. We will seek to strengthen cooperation with relevant and like-minded partner in the interests of NATO's agreed deterrence and defence objectives, in line with NATO's decisions, policies and procedures, as appropriate, and with consideration of political implications (NATO, 2021)."

B. THE SPECIFIC ROLE OF ALLIES AND PARTNERS

1. Nordic Allies and Partners

- 69. In April 2015, the Defence Ministers of Denmark, Finland, Iceland, Norway, and Sweden took steps to strengthen an already longstanding defence partnership, known as Nordic Defence Cooperation (NORDEFCO), by agreeing to increase joint exercising and intelligence exchanges, as well as to upgrade equipment and strengthen defence industrial cooperation (Bentzrød, 2015). In November 2018, NORDEFCO Defence Ministers signed on to 'Vision 2025', which sets out an ambitious political framework for the group of nations' close defence cooperation (NORDEFCO, 2018). On 23 September 2020, the Defence Ministers of Finland, Norway, and Sweden signed a trilateral agreement seen as the first practical step in implementing the Vision 2025 goals (Staalesen, 2020).
- 70. Individually the Nordic Allies and Partners have also taken steps to improve their capabilities in the High North in recent years. This has translated into significant investments by all in new

surface ships and submarines, maritime patrol aircraft, radar systems, and space-based assets. These investments are demonstrating the role each nation is seeking to play in not only maintaining the security of the transatlantic space for the Alliance, but also in maintaining an accurate picture of the evolving Arctic. For example, Iceland has worked closely with the United States and its Nordic Allies to make the island a key anchor for NATO maritime surveillance aircraft, as recent renovations to airfields, like the one in Keflavik, allow for expanded storage of Allied P-8 Poseidon 'submarine-hunter' aircraft and thereby expanding the Alliance's Anti-Submarine Warfare (ASW) reach. Iceland and Norway have also started taking turns hosting MARCOM's annual Dynamic Mongoose, a NATO ASW exercise. Norway will host the 2022 edition of NATO's *Cold Response* Exercise, comprising 40 000 soldiers (Nilsen (b), 2021).

- 71. Norway has contributed to the Allies' overall northern warfare expertise through its advanced facilities and cooperative training exercises. In January 2016, NATO's Centre of Excellence for Cold Weather Operations was combined with the Norwegian School of Winter Warfare, which has allowed Norway to lead on cold weather training. Norway hosts a range of exercises throughout the year to assist Allies and partners' air, land, and sea forces train in challenging northern conditions the largest in recent decades being TRJE18. Norway is also acquiring five new P-8 MPAs and replacing its submarine fleet to assist with the vast Area of Responsibility (AOR) of the Norwegian Navy, but to also help Allies understand the evolving High North security environment.
- 72. In February 2021, Denmark announced a significant new investment of DKK 1.5bn (USD 240 million) to improve Danish defence capabilities in the Arctic and North Atlantic (DMD, 2021). The thrust of the investment will focus on high-tech surveillance capabilities, but also increased presence and joint training with the Faroe Islands and Greenland. The most significant investments will go to air surveillance radar on the Faroe Islands, long endurance RPAs (drones), and additional space-based assets, all of which military and civilian experts on the region noted are essential to a clearer picture of the Arctic (DMD, 2021). As the Danish Government noted, these new investments will take place in cooperation with the United States and other Arctic Allies, "while founded in NATO" (DMD, 2021).

2. The United States and Canada

- 73. The United States has made a strategic focus on activities in the High North a clear priority in recent years. Since 2014, the Unites States has worked with Iceland to develop infrastructure and facilitate deployments to Keflavik Air Base and 330 US Marines deployed central Norway for a rotational presence (the first time since WWII). In 2018, the United States reactivated its 2nd Fleet, in response to the changing security environment in the Atlantic and the Arctic, as a manoeuvre arm capable of performing missions for either US NAVNORTH or US NAVEUR."9. This large-scale ocean manoeuvring warfare unit has considerably altered US posture in the North Atlantic and Arctic. 10 In the last two years, the US Department of Defence, as well as the US Air Force, and, most recently, the US Navy and Army have all released new Arctic strategies.
- 74. The United States has also increased its cooperation with Arctic Allies and partners. It has worked to strengthen its defence cooperation with both Sweden and Finland via the signing of a trilateral defence agreement in 2018 (Mehta, 2018). Strengthened trade ties with Iceland and defence cooperation with Denmark have also followed suit. In addition, the United States has increased its presence on routine operations and via exercising in the High North and Arctic in recent years annual examples are *Exercise Dynamic Mongoose* off the shores of Iceland, *Operation Nanook-Nunalivut* in the North Atlantic above the Arctic Circle, and Marine exercises *Cold Response* and *Arctic Edge* (US Navy, 2021). In addition, the U.S. has restarted *Northern Viking*, a US-Iceland bilateral exercise.

The Second Fleet was deactivated in 2011 to preserve funding for new ship acquisition across the US Navy; its assets were then folded under the broader umbrella of the Fleet Forces Command.

Notable assets include 26 submarines (6 SSBN and 20 SSGN), 4 aircraft carriers (CVN), 18 destroyers (11 DDGHM and 7 DDGM), 2 amphibious assault ships (LHD), 3 amphibious transport docks (LPD), and 5 dock landing ships (LSD) (Lewis, 2018).

- 75. Canada has also been investing in upgraded capabilities to operate its forces in the High North effectively and to contribute to the Alliance's overall picture of the area. Perhaps the most significant steps have been taken by the Canadian Navy. The Canadian Government recently selected the ASW-optimised Type 26 frigate to replace its ageing Halifax-class frigate and has also committed to upgrading their Victoria-class submarines (Alison, 2018). The new Harry DeWolf-class Arctic and Offshore Patrol Ships (AOPS) is a cutting-edge offshore patrol ship capable of long duration operations in Arctic conditions and is the anchor of Canada's increasing presence in the Arctic six armed have been ordered for the Canadian Navy and another two unarmed versions for the Coast Guard, the first of which was delivered in July 2020 (Canadian Navy, 2021).
- 76. The early warning radar system under joint US-Canada command for the atmospheric air defence of North America, the North Warning System (NWS) mentioned above, is reaching the end of its lifecycle in 2024. A discussion is underway about the new system that will replace the NWS. Proposals for the scale and scope of a new system are currently being debated; the United States and Canada will have to split 60/40 the upgrade costs, estimated to be between USD 11-15bn (Brewster, 2021). Both the United States and Canadian governments are currently deciding upon the appropriate course of action to upgrade the system.

3. The unique cases of the United Kingdom and France

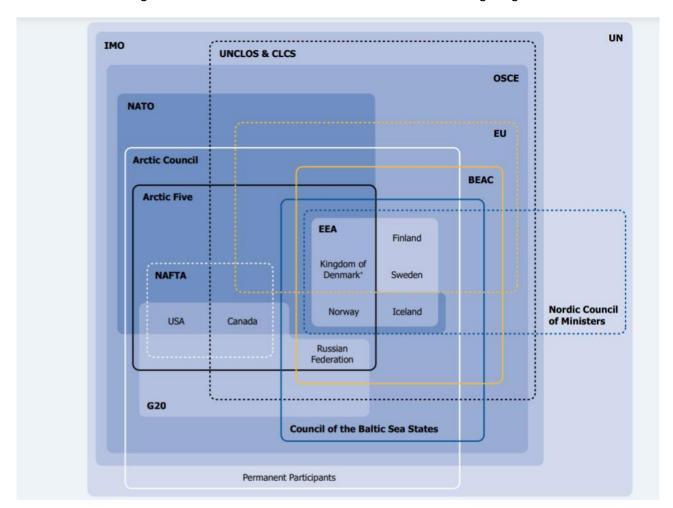
- 77. The United Kingdom, alongside the United States, has been working to increase its maritime and naval air capabilities to be fit for purpose for the Arctic of the 21st century. In recent years, the United Kingdom has paid significant attention to the renewal of its maritime forces. As a key task of the UK maritime forces is to surveil the GIUK Gap, among the key new capabilities acquired, have been the ASW-optimised Type 26 Global Combat Ship; the new *Astute*-class submarines will replace the *Trafalgar*-class submarines, and the U.K. will acquire nine P-8 *Poseidon* MPAs. The United Kingdom has also been increasing exercising and presence in the High North in recent years for example, it was the second largest contributor to 2020 *Cold Response* exercise (behind only Norway), it participated in an Air Policing mission in Iceland for the first time in over a decade and has engaged in recent freedom of navigation operations alongside the United States (May 2020), and with a Danish aircraft, and a Norwegian frigate and US destroyer in the Barents Sea (September 2020) (Chuter, 2020).
- 78. With its powerful maritime and naval air capabilities, France deploys its armed forces in the area on a regular basis, particularly during joint exercises in the High North. It deployed 2,700 troops during TRJE18. The French Air Force also regularly participates in the Arctic Challenge exercise organised every two years by Finland, Norway, and Sweden. The Air Force is also present for air policing missions in Iceland and Finland. The Rhône, an offshore support and assistance ship, was the first non-Russian military vessel to sail through the Northern Sea Route autonomously in September 2018, enabling the French Navy to increase its knowledge of the Arctic environment as well as cooperation with the navies of countries in the area (Canada, Denmark, United States, Norway).

4. Other Allies

Allies have expressed, for a long time or more recently, an interest in the High North. "What happens in the Arctic now does not stay in the Arctic, the area being an amplifier of what happens elsewhere" as noted in early 2020 by Icelandic Ambassador Einar Gunnarsson, chair of the Arctic Council's Committee of Senior Officials (Berny, 2020). Poland is engaged in the Arctic, especially since it was granted observer status at the Arctic Council's founding in 1996. It deploys its scientific expertise in several working groups and task forces. Poland has not yet published an Arctic strategy, but one is reportedly in preparation according to the Polish representative to the Arctic Council (Taithe, et. al, 2020). In October 2013, the German Foreign Office presented "Guidelines for a German Arctic Policy: Taking responsibility, taking advantage of opportunities," in which it recognised the geopolitical, geo-economic, and geo-ecological importance of the region. Italy published the first document related to its Arctic Strategy in 2015, and three years later, the Foreign Affairs Committee of the Italian Chamber of Deputies published the Final Parliamentary Report on the Italian Arctic Strategy (Italy, 2021). In its new Polar Strategy published in March 2021, the Dutch government sets out how the Netherlands intends to continue contributing to the protection of human interests, the environment, and international security and stability. On 14 November 2019, Estonia had announced its application for observer state status in the Arctic Council. The first Baltic country to express such a request, Estonia based its application around three pillars: science, economy and security. "As the northernmost non-Arctic country and due to its location, Estonia is directly affected by the growing geopolitical issues in the Arctic, and that is why we need to be included in the discussions and problem solving," noted Foreign Minister Urmas Reinsalu (Observatoire de l'Arctique, 2020). Though the country's bid was eventually unsuccessful last May, it is a clear demonstration of the expanding interests by an array of states to have a voice in the future of the Arctic.

VI. EXISTING WAYS AND MEANS FOR COOPERATION: THE ESSENTIAL ROLE OF THE ARCTIC COUNCIL

80. As noted above, the Arctic Council's founding in 1996 served as an anchor for the post-Cold War effort to maintain the Arctic as a zone of 'peaceful cooperation'. The exclusion of military security from the Council's mandate is a distinctive feature, which has allowed for continued cooperation despite political tension between members (Charron, 2020). For example, Russia's aggressive foreign policy and use of force in Ukraine in 2014 did not prove to be an obstacle to the establishment of the Arctic Coast Guard Forum in 2015 (Exner-Pirot et al., 2019). The Council's chairmanship rotates every two years.



81. The anchoring role of the Arctic Council is reflected in the following diagram.

Source: Arctic Policies and Strategies — Analysis, Synthesis, and Trends Lassi Heininen, Karen Everett, Barbora Padrtova, Anni Reissell, February 2020

82. Arctic nations are strongly committed to the Council, which is reflected in each of their national Arctic strategies and their commitment to three key agreements; covering search and rescue, marine pollution preparedness, and scientific cooperation (Ulmer, 2019). While the Arctic Council has been praised as a model for regional governance, experts agree that the Arctic Council could be a victim of its own success, as there is a reluctance to reform from fear of disrupting the functioning structure (Bergquist, 2018). Growing economic prospects in the region have led experts to call for Council's priorities to shift to sustainable development (Smieszek and Koivurova, 2017). The Council has attempted to address some of these issues by establishing a permanent Secretariat in 2013 to provide a single administrative base easing the transition between chairmanships and creating the Arctic Economic Council in 2014 (Murray, 2014; Molenaar, 2016). Molenaar, 2016).

These agreements provide cooperation incentives, but do not provide legal obligations beyond existing international regulations and have no resource implications (Arctic Council SAO, 2015).

According to its critics, the Council's organisational structure is a hurdle to effective policy implementation and consistency of focus: it operates as a consensus-based organisation due to its lack of 'legal personality', depends on unreliable voluntary funding from member states and is subject to rapid leadership turnover due to the two-year cycle of chairmanship (Exner-Pirot et al., 2019). For example, while successive chairmanships have resulted in a wealth of projects, lack of funding and political attention has resulted in relatively limited follow-through on many (Ulmer, 2019). In addition to this, the work of the Council is carried out by six working groups, which operate with no formal reporting structure and focus almost entirely on environmental protection, with only one explicitly

- 83. Shortcomings aside¹³, the Arctic Council helps build a community among the actors in the region.
- 84. Just prior to Russia's illegal annexation of Crimea in 2014, the Arctic states reached their pinnacle of cooperative collective action on a range of issues. For example, in 2010, Russia and Norway settled a long-standing maritime boundary dispute; in 2011 all Arctic states came to an agreement on SAR cooperation, and, in the same year established the annual Arctic Security Forces Roundtable; in 2012, Arctic states established the Arctic Chiefs of Defence Conference; and, in 2013 reached an agreement on marine oil disaster response (NATO PA, 2015).
- 85. The Presidency of the Council rotates every two years. Iceland finished its tenure as Council President on 20 May 2021, during which it worked along four main lines of effort: safeguarding and strengthening the Arctic marine environment; cooperative climate and clean energy solutions; recognition and support of the peoples and communities of the Arctic; and, strengthening the role of the Arctic Council. In this vein, Iceland introduced a new strategic plan for the council's next decade a first for the council in its 25 years. US Secretary of State, Antony Blinken, reversing the previous administration's position, noted of the strategic plan: "The United States looks forward to implementing the Council's first-ever strategic plan in cooperation with Russia and all of our partners. It's fitting that we would adopt this ten-year plan for the Council's 25th anniversary. It represents an important step forward in ensuring that the Council becomes even more effective and cooperative for the future (Bye, 2021)" In addition, ministers from all eight Arctic states signed onto the 2021 joint declaration confirming the Council's commitment to maintain peace, stability, and constructive cooperation in the Arctic.
- 86. Russia began its tenure as Council President on May 20. Russia's increased militarisation of the region in recent years has raised some concerns about Moscow's intentions for the presidency. However, the head of the Russian delegation to the Council, Nikolay Korchunov, had previously been keen to reassure other member countries that Russia would not include military security issues on the agenda of Council meetings (Danilov, 2021). Korshunov's message of reassurance is part of the ongoing debate in Russia about the Arctic, which some see as an autonomous region to be protected from geopolitical competition, while others see it as just another region in the new global chessboard. At the ministerial meeting in Reykjavik, Russia stressed its desired to continue with Iceland's principal objectives, and announced its four principal priorities for the coming two years: quality of life for Arctic communities; protection against the impact of climate change, particularly focusing on the thawing of Arctic permafrost; socio-economic cooperation across the Arctic to boost the construction of resilient infrastructure; and, the stability and development of the Arctic Council (Canova, et al., 2021).

dealing with sustainable development (Exner-Pirot et al., 2019; Stephan, 2018). Four of the working groups were in fact absorbed from the Arctic Environmental Protection Strategy, an agreement that preceded the Arctic Council, and therefore reflect post-Soviet Union environmental challenges, particularly nuclear waste and other pollutants in the Barents region (Ulmer, 2019).

Notably in 2019, when member states inability to agree on the language has led to the delay in establishing strategic planning. The establishment of a Strategic Plan, initially to be completed by 2019, was delayed and the ministers were unable to reach consensus on a Ministerial Declaration (Ulmer, 2019)

Chart showing the eight Arctic State's latest strategic priorities for the Arctic region

Canada (last update: 2019)

- Nurture healthy families and communities;
- Invest in energy, transportation and communications infrastructure for northern and Arctic governments, economies and communities;
- Create jobs, foster innovation and grow Arctic and northern
- Support science, knowledge, and research meaningful for communities and for decisionmaking;
- Face the effects of climate change and support healthy ecosystems in the Arctic and
- Ensure Canada and our northern and Arctic residents are safe, secure, and well-defended;
- Restore Canada's place as an international Arctic leader;
- Advance reconciliation and improve relationships between Indigenous and non-Indigenous peoples

Source: Government of Canada,

Denmark (last update: 2015)

- Develop the Arctic for the benefit of its inhabitants;
- Create new opportunities for indigenous people via Greenland-Denmark cooperation;
- Comply with international obligations for resource management and environmental protection to support healthy, productive, and self-sustaining communities;
- Foster international cooperation in line with the 2008 Ilulissat
- Prevent conflicts and avoid Arctic militarization by preserving trust, cooperation, and mutually beneficial partnerships.

Source: Ministry of Foreign Affairs of Denmark, 2015

Finland (last update: 2021)

- Mitigate and adapt to climate change in the Arctic;
- Promote the wellbeing of Arctic
- Strengthen the rights of the Sami as an indigenous people;
- Develop infrastructure and logistics in the Arctic region to serve local needs through sustainable and low-emission methods and modes of transport

Iceland (last update: 2011)

- Promote and strengthen international institutions and cooperation in the Arctic
- Ensure the security of Iceland as a coastal state in the Arctic while working against regional militarization;
- Increase economic cooperation in the region and supporting indigenous rights;
- Work to prevent human-induced climate change and its effects in order to improve the well-being of

Source: Government of Finland, Source: Althingi, 2011

Norway

(last update: 2021)

- Maintain a consistent and predictable approach by balancing the various interests in
- Highlight the benefits of cooperation:
- Take a broad-based approach to climate change and the Arctic environment;
- Work towards the UN Sustainable Development Goals:
- Promoting job creation and value
- Be at the forefront of technological development in areas such as health, energy, petroleum, maritime and marine industries, and the public sector;
- Preserve the identity and culture of national indigenous communities

Source: Government of Norway,

Russia (last update: 2021

- Improve the quality of life for the Russian Federation's Arctic population, including indigenous
- Accelerate the economic development of the territories of the Arctic zone of the Russian Federation and increase their contribution to the economic growth of the country
- Protect the Arctic environment. and indigenous minority's traditional way of life;

Conduct mutually beneficial cooperation and peaceful dispute settlement in the Arctic based on international law;

- Safeguard the Russian Federation's national interests in the Arctic, particularly in the economic sphere.

Source: Presidency of the Russian Federation, 2021

Sweden

(last update: 2021)

2021

- International Collaboration in the
- Security and Stability;
- Climate and Environment (including biodiversity, non-toxicity and nuclear safety);
- Polar research and environmental monitoring:
- Sustainable economic development and business sector interests;
- Ensuring good living conditions (including access to digital infrastructure, gender equality and policies for young people and indigenous people).

Source: Government of Sweden,

United States (last update: 2021)

White House:

- Advance United States Security
- Pursue Responsible Arctic Region Stewardship;
- Strengthen International

Department of Defense:

- Defend the Homeland;
- Compete when necessary to maintain favorable regional balances of power;
- Ensure common domains remain free and open

Source: White House, 2013: Department of Defense, 2021

- 87. At a press conference after the May 20 meeting, Russian Foreign Minister Sergey Lavrov suggested that Arctic States should also resume annual talks on military matters, a practice that had been suspended after the 2014 Invasion of Ukraine by Russia (Reuters, 2021b). Two principal existing fora allow the discussion of military security in the Arctic: the annual meeting of the Arctic states' Chiefs of Defence and the Arctic Security Forces Roundtable (ASFR). Established by the United States and Norway in 2010, the ASFR is a military-to-military forum at the flag-and-general officer level among 11 European and North American nations to coordinate on bilateral and multilateral exercising and operations in the area, as well as a key means to address any security-related issues that are of collective concern (USEUCOM, 2021). The annual meeting of the Arctic states' Chiefs of Defence has been on hold since 2014; Russia has not participated in the ASFR since 2014, as sanctions related to its illegal annexation of Crimea preclude its participation.
- 88. Despite the growing strategic competition between Russia and NATO Allies, the High North remains an area where it is important to maintain mutually beneficial cooperative efforts: This was a key takeaway of the last two Defence and Security Committee visits to Norway in recent years. For example, Norwegian defense officials are quick to note they maintain positive day-to-day cooperation with their Russian counterparts in areas such as SAR along their shared maritime border in the Barents Sea. Norway also cooperates with Russia on fisheries management, and people-to-people contact across the two countries' land border through the so-called Barents Cooperation. As officials noted at the time: this level of practical cooperation has fostered a degree of mutual trust and maintained relative regional stability; built over years of coordinated activities at sea and on land both during and after the Cold War (NATO PA, 2017). Maintaining mutually beneficial cooperation between Russia and its Arctic European neighbours is increasingly import as the region continues to see increased economic, social and military activity largely as a result of external interests in the new Arctic.

VII. CONCLUSIONS FOR NATO PARLIAMENTARIANS

- 89. NATO has long taken the Arctic into account, given its strategic importance for transatlantic security. Allies have always maintained a presence and sought as clear a picture as possible of developments in the High North, lest they be exposed to potential vulnerabilities to which the Alliance's northern flank presented them. These were principally the avenue the Arctic Ocean offered to Soviet subs seeking to shoot the GIUK Gap and disrupt Allies' transatlantic lanes of communication, or for the overflight path the North Pole provided for Soviet ICBMs.
- 90. The area that served as a key arena for Cold War Superpower strategic competition, however, has changed. Accelerated climate change is impacting the Arctic faster than any other region in the world. Allies are now very much faced with a 21st Century Arctic that is different in climate, geography, as well as geopolitical realities.
- 91. After a long period of relative strategic isolation, the Arctic is slowly finding its way back to the centre of some strategic discussions. This is driven by two key factors: The first is the spill over of the strategic competition between NATO Allies and Russia into the Arctic region which is one of the major areas of civil (economic, environmental, cultural) dialogue and cooperation between them. The second is the growing efforts by non-Arctic states, including China, to not be left out of the potential future benefits of the 21st-century Arctic.
- 92. A key strategic concern for Allies is the maintenance of freedom of navigation in an increasingly busy Arctic. The ability to defend Allied interests in the region is also essential.
- 93. NATO Parliamentarians can have a role in advocating for several critical next steps for the High North. In recent years, the Assembly has made several important recommendations for additional Allied action with regard to High North challenges. They were consolidated into the Assembly's 2020 Resolution, <u>A More United and Stronger Alliance on the Global Stage</u>, in which it

urged the governments and parliaments of the North Atlantic Alliance to: "bolster NATO's situational awareness in the Arctic region, including through greater information sharing, the creation of a working group on the Arctic, and training and exercises, and to maintain a good dialogue with Allies about search and rescue capabilities in the region" (NATO PA, 2020b).

- 94. The independent group of experts appointed as part of the forward-looking process on NATO's future (#NATO2030) addressed the region in their 2020 report, outlining strategic policy recommendations for managing Allied interests in the region over the next decade. The report couches the reference to the High North far from the sections on the growing complex challenges posed to the Alliance by Russia and China, and, instead, notes it as a burgeoning climate change-related issue. It advocates situational awareness as a first step, rather than a rush to ill-informed increased presence. It also notes the legitimacy of Arctic Allies' concerns about too large a role for NATO in the High North. Finally, the independent group of experts advocate for a kind of new, better-informed status quo with Arctic Allies in the lead, but leave the door open for a continual reassessment of strategic developments in the region.
- 95. This report underscores the necessity of the following through on these proposals by more specifically advocating for the following:
 - Continued and increased Allied investment in the modern ISR assets necessary for the clearest picture possible of the region. To get this level of understanding of regional developments, the Alliance needs a defence surveillance system weaving together space, air and land-based surveillance in real time. In light of a rapidly evolving Arctic, due to an increased number of actors seeking access, but also in terms of climate and geography, this is the most important first step for Allies. The latter have picked up the pace of their ISR related investments in the region in recent years, but much remains to be done.¹⁴
 - Sufficient capabilities for Allies to project power effectively into the High North in defence of Allies and Allied interests, when and if necessary this includes economic interests in place, but also in transit, as access to the Arctic grows to allow for increased transarctic commercial shipping. To be able to do this, Allies must continue to increase investments in High North-related equipment and the training necessary to make their soldiers expert cold weather warriors in the adverse climate of the High North. At the same time, NATO activities should be conducted with an awareness of the need to preserve the Arctic as a low-tension region.
 - The ability to maintain a capable presence in the High North. Allied presence must be flexible enough to be calibrated to the ebb and flow of the security dynamics facing Allies in the High North. An increasingly congested and rapidly evolving climate and, as a result, changing geography in the 21st Century Arctic necessitate this level of smart, calibrated, and flexible presence. Such a presence must be led by NATO's Arctic Allies given their vital interests in the region and unique understanding of how to shepherd its future.
- 96. A principal challenge facing Allies is sufficient data acquisition; the ability to rely on a variety of systems; and networking and pooling of resources among Allies, but also with their partners, in particular Finland and Sweden, as well as the European Union, which is also reassessing its approach to the changing Arctic political landscape. As such, the space domain is a promising

This is made clear by recent remarks by US Coast Guard Commandant Paul Zukunft during the 2020 Defense News Conference from 9-10 September, who noted that a US national security cutter sent on a recent patrol of an ice-free region of the Arctic, "stumbled upon a joint exercise between Russia and China." In a bleak assessment of Allied Arctic ISR capabilities, Zukunft said, "things start to get pretty dark once you get higher than 72 degrees north" (Larter, 2020).

23

Against the backdrop of increased geopolitical attention for the region, an update of the EU's Arctic policy was announced in autumn 2019 and is now expected to be published in late 2021.

area of effort that should be developed.¹⁶ Because of new activities and the rapid evolution of the region due to global warming, polar satellite systems or space programmes are bound to become essential tools in the following areas: telecommunications; maritime safety and navigation aids (vessel identification and tracking, topography, high sea manoeuvre coordination sea and land ice drift prediction); environmental monitoring (detection and monitoring of ice evolution, pollution detection...); and, the sustainable management of marine resources. Russia launched its first Arctic monitoring satellite this past February.

97. Finally, while not a principal focus of this report, it is increasingly clear the long-term effects of accelerated climate change will undoubtedly have adverse security effects for all Allies. These may come in many forms, from rising seas and changing coast lines, to climate-related disasters at home, and more. The rapid temperature rises in the Arctic, which is happening at a rate three times the global mean, have the ability to disrupt the region's biology and geology permanently. The disruption of Arctic Ocean currents, as a result of these changes, can have a seriously detrimental knock-on effect of disrupting climate stability across the globe. Attention to these issues should focus the minds of all Parliamentarians across the Alliance, as what we may witness changing in the Arctic today, could be the harbinger of changes to come far beyond the region over the horizon.

See the STC's 2021 report on <u>Space and Security</u> regarding this point.

BIBLIOGRAPHY

- Agence France Presse (AFP), "Russia Says Norway Becoming 'Parade-ground' for NATO, reported in Barron's, 11 February 2021. https://www.barrons.com/news/russia-says-norway-becoming-parade-ground-for-nato-01613072404?tesla=y
- Allison, George, "Type 26 Frigate Wins Canadian Frigate Competition", *UK Defence Journal*, 19 October 2018, https://ukdefencejournal.org.uk/type-26-frigate-wins-canadian-frigate-competition/
- Arctic Monitoring and Assessment Programme (AMAP), "Arctic Ocean Acidification Assessment: 2018 Summary for Policymakers," 2018. https://www.amap.no/documents/download/3296/inline.
- Bentzrød, Sveinung Berg, "Russian Aggression: Nordic States Extend their Military Cooperation" *Aftenposten*, 9 April 2015. https://www.aftenposten.no/verden/i/KmE7/russian-aggression-nordic-states-extend-their-military-cooperation
- Berardelli, Jeff, "100.4 Degree Arctic Temperature Record Confirmed As Study Suggests Earth is Warmest in at least 12,000 years," *CBS News*, 1 July 2020. https://www.cbsnews.com/news/arctic-temperature-record-100-4-degrees-earth-warmest-12000-years/
- Bergquist, Elisabeth, "Vast Mineral Deposits Near Svalbard," High North News, 29 January 2020. https://www.highnorthnews.com/en/vast-mineral-deposits-near-svalbard
- Berny, Laura, « Climat: à quoi sert le Conseil de l'Arctique, » Les Echos, 21 February 2020. https://www.lesechos.fr/monde/enjeux-internationaux/climat-a-quoi-sert-le-conseil-de-larctique-1173639
- Bjorgass, Olav Rescue Coordinator, Joint Rescue Coordination Centre (JRCC), Presentation to the NATO Parliamentary Defence and Security Committee, Bodø, Norway, 2015.
- Bratersky, Alexander, "Russia's Arctic activity to increase with fresh strategy and more capability tests", DefenseNews, 11 April 2021. https://www.defensenews.com/smr/frozen-pathways/2021/04/11/russias-arctic-activity-to-increase-with-fresh-strategy-and-more-capability-tests/.
- Breum, Martin, "Russia extends its claim to the Arctic Ocean seabed", Arctic Today, 4 April 2021. https://www.arctictoday.com/russia-extends-its-claim-to-the-arctic-ocean-seabed/.
- Brewster, Murray, "Plan to Rebuild Defence Early Warning System Means Political, Fiscal Headaches for Trudeau Government," CBC, 26 January 2021. https://www.cbc.ca/news/politics/norad-shield-defence-ballistic-missile-bmd-1.5887192
- Brimelow, Benjamin, "Russia's powerful Northern Fleet just got the first of a new class of submarines that has the US Navy worried", Business Insider, 8 June 2021. https://www.businessinsider.fr/us/russia-northern-fleet-new-class-of-subs-worry-us-navy-2021-6.
- Bye, Hilde-Gunn, "Arctic Council Adopts First-Ever Strategic Plan," *High North News*, 20 May 2021. https://www.highnorthnews.com/en/arctic-council-adopts-first-ever-strategic-plan
- Canada Department of National Defence, "The Distant Early Warning Line: An Environmental Legacy Project," updated 2018-07-09, https://www.canada.ca/en/department-national-defence/corporate/video/other/distant-early-warning-line-an-environmental-legacy-project.html
- Canada Navy, Arctic and Offshore Patrol Ships, 9 September 2021, http://www.navy-marine.forces.gc.ca/en/fleet-units/aops-home.page
- Canova, Emilie, Camille Escudé Joffres, Joaquim Gaignard, Pauline Pic, Léa Tourdot, and Florian Vidal, "Russian chairmanship of the Arctic Council: The Awakening of a Giant", Groupe d'études géopolitiques, 31 May 2021. https://geopolitique.eu/en/2021/05/31/russian-chairmanship-of-the-arctic-council-the-awakening-of-a-giant/.
- Charron, Andrea, "NATO and the Geopolitical Future of the Arctic," Arctic Yearbook 2020, https://arcticyearbook.com/images/yearbook/2020/Briefing-Notes/2_Charron.pdf
- Chuter, Andrew, "British Warships Extend Their Northern Reach for Barents Drill," *DefenseNews*, 10 September 2020. https://www.defensenews.com/global/europe/2020/09/10/british-warships-extend-their-northern-reach-for-barents-sea-drill/
- Congressional Research Service, "Changes in the Arctic: Background and Issues for Congress", 16 July 2021. https://fas.org/sqp/crs/misc/R41153.pdf.

- Conley, Heather and Caroline Rohloff, "The New Ice Curtain: Russia's Strategic Reach to the Arctic" Center for Strategic and International Studies (CSIS Europe Progam), August 2015.
- Danilov, Peter, "Russia Wants to Resume Meetings Between Arctic Defense Chiefs," High North News, 7 March 2021.
- Danish Ministry of Defence (DMD), "New Political Agreement on Arctic Capabilities for 1.5 Billion DKK," 11 February 2021. https://fmn.dk/en/news/2021/new-political-agreement-on-arctic-capabilities-for-1.5-billion-dkk/
- D'Aprile, Aurora, "Arctic tourism: how the Great North is becoming the new exotic", Foresight The CMCC observatory on climate policies and futures, 21 August 2018. https://www.climateforesight.eu/future-earth/arctic-tourism-how-the-great-north-is-becoming-the-new-exotic/
- Dyndal, Gjert Lage, "50 years ago: The origins of NATO concerns about the threats of Russian strategic nuclear submarines," *NATO Review*, 24 March 2017. https://www.nato.int/docu/review/articles/2017/03/24/50-years-ago-the-origins-of-nato-concerns-about-the-threat-of-russian-strategic-nuclear-submarines/index.html
- Eiterjord, Trym, "China's Busy Year in the Arctic," The Diplomat, 30 January 2019. https://thediplomat.com/2019/01/chinas-busy-year-in-the-arctic/
- Exner-Pirot, Heather, Maria Ackrén, Natalia Loukacheva, Heather Nicol, Annika Nilsson, and Jennifer Spence. 2019. "Form and Function: The Future of The Arctic Council | The Arctic Institute". The Arctic Institute. https://www.thearcticinstitute.org/form-function-future-arctic-council/?cn-reloaded=1.
- Finne, Anne E., "EU Millions to High North Search and Rescue", High North News, 3 February 2019. https://www.highnorthnews.com/en/eu-millions-high-north-search-and-rescue.
- Glasby, Geoff and Yuri Voytekhovsky, "Arctic Russia Minerals and Mineral Resources," The Geological Society, August 2010. https://www.geolsoc.org.uk/Geoscientist/Archive/August-2010/Arctic-Russia-minerals-and-mineral-resources
- Gorbachev, Mikhail, Speech in Murmansk at the Ceremonial Meeting on the Occasion of the Presentation of the Order of Lenin and the Gold Star to the City of Murmansk, 1 October 1987. https://www.barentsinfo.fi/docs/Gorbachev_speech.pdf
- Gorenburg, Dimitry, "Russia's New and Unrealistic Naval Doctrine," War on the Rocks, 26 July 2017. https://warontherocks.com/2017/07/russias-new-and-unrealistic-naval-doctrine/
- Government of Canada, "Canada's Arctic and Northern Policy Framework", 10 September 2019, https://www.rcaanc-cirnac.gc.ca/eng/1560523306861/1560523330587.
- Government of Finland, "Finland's Strategy for Arctic Policy", 18 June 2021, https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/163247/VN_2021_55.pdf
- Government of Norway, "The Norwegian Government's Arctic Policy. People, opportunities and Norwegian interests in the Arctic", 26 January 2021, https://www.regjeringen.no/globalassets/departementene/ud/vedlegg/nord/whitepaper_abstract2020.pdf
- Government of Sweden, "Sweden's Strategy for the Arctic region", 10 November 2020, https://www.government.se/4ab869/contentassets/c197945c0be646a482733275d8b702cd/s wedens-strategy-for-the-arctic-region-2020.pdf.
- Heininen, Lassi, et. al, "Arctic Policies and Strategies Analysis, Synthesis, and Trends," International Institute for Applied Systems Analysis, February 2020. http://pure.iiasa.ac.at/id/eprint/16175/1/ArticReport WEB new.pdf
- Hermann, Victoria, and Andreas Raspotnik, "A Quick Start Guide to the Arctic and UNCLOS", The Arctic Institute, 10 February 2019. https://www.thearcticinstitute.org/quick-start-guide-arctic-unclos/.
- Hoag, Hannah "Nations Negotiate Fishing in Arctic High Seas," *UPI*, 28 April 2016. https://www.upi.com/Science_News/2016/04/28/Nations-negotiate-fishing-in-Arctic-high-seas/6491461866116/.
- Holroyd, Suzanne, "U.S. and Canadian Cooperative Approaches to Arctic Security," RAND, June 1990. https://www.rand.org/pubs/notes/N3111.html
- Hosain, Kamrul, "Russia's Proposed Extended Continental Shelf in the Arctic Ocean: Science Setting the Stage for Law", American Society of Law Insights (25:8), 24 May 2021. https://www.asil.org/insights/volume/25/issue/8

- Hsiung, Christopher Weidacher, "The Emergence of a Sino-Russian Economic Partnership in the Arctic?" *The Arctic Institute*, 19 May 2020. https://www.thearcticinstitute.org/emergence-sino-russian-economic-partnership-arctic/
- Humpert, Malte, "Russia Begings Construction on Fifth Nuclear Icebreaker as Arctic Sees Record Shipping Traffic," High North News, 22 December 2020. https://www.highnorthnews.com/en/russia-begins-construction-fifth-nuclear-icebreaker-arctic-sees-record-shipping-traffic
 - "Russia Elevates Importance of Northern Fleet Upgrading it to Military District Status,"
 High North News, 13 January 2021.
- IBRU: Centre for Borders Research (a), "Russia's evolving Central Arctic Ocean submission Map", Durham University Department of Geography, April 2021.
 <a href="https://www.durham.ac.uk/media/durham-university/research-/research-centres/ibru-centre-for-borders-research/maps-and-databases/arctic-maps-2021/updated-maps-and-notes/Map-5-IBRU-Arctic-map-07-04-21-(Russias-evolving-submission-in-the-CAO).pdf</p>
- IBRU: Centre for Borders Research (b), "Continental shelf submissions in the Central Arctic Ocean Map", Durham University Department of Geography, April 2021.

 <a href="https://www.durham.ac.uk/media/durham-university/research-/research-centres/ibru-centre-for-borders-research/maps-and-databases/arctic-maps-2021/updated-maps-and-notes/Map-2-IBRU-Arctic-map-07-04-21-(Continental-shelf-submissions-in-the-CAO).pdf
- Ilyushina, Mary and Frederik Pleitgen, "Inside the Military Base at the Heart of Putin's Arctic Ambitions," CNN, 5 April 2019. https://edition.cnn.com/2019/04/04/europe/russia-arctic-kotelny-island-military-base/index.html
- International Institute for Strategic Studies (IISS), The Military Balance, February 2015.
- International Military Council on Climate and Security. 2020. "The World Climate and Security Report".
 - https://imccs.org/wp-content/uploads/2021/01/World-Climate-Security-Report-2020_2_13.pdf.
- IPCC, 2019; Summary for Policy Makers, in IPCC Special Report on the Ocean and Cryosphere in a Changing Climate, [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)]. https://www.ipcc.ch/srocc/chapter/summary-for-policymakers/
- Italy, Embassy Ottawa, *Italy and the Arctic*.

 https://ambottawa.esteri.it/ambasciata ottawa/en/i rapporti bilaterali/cooperazione%20scien tifica/artico-interesse-italiano.html
- Klimenko, Ekaterina, "Russia's New Arctic Policy Document Signals Continuity Rather Than Change," SIPRI, 6 April 2020. https://www.sipri.org/commentary/essay/2020/russias-new-arctic-policy-document-signals-continuity-rather-change
- Kluge, Janis and Michael Paul, "Russia's Arctic Strategy through 2035," German Institute for International and Security Affairs; SWP Comment, No. 57, November 2020.
- Kramer, Andrew E., "In the Russian Arctic, the First Stirrings of a Very Cold War", The New York Times, 22 May 2021. https://www.nytimes.com/2021/05/22/world/russia-us-arctic-military.html
- Lackenbauer, P. Whitney; Lajeunesse, Adam; Manicom, James; Lasserre, Frédéric "China's Arctic Ambitions and What They Mean For Canada", University of Calgary Press, 2018. https://prism.ucalgary.ca/bitstream/handle/1880/106384/9781552389027_chapter03.pdf?sequence=6&isAllowed=y
- Lanteigne, Marc and Mingming Shi, "Shina Steps Up Its Mining Interests in Greenland," The Diplomat, 12 February 2019. https://thediplomat.com/2019/02/china-steps-up-its-mining-interests-in-greenland/
- Lanteigne, Marc, "The Changing Shape of Arctic Security," *NATO Review*, 28 June 2019. https://www.nato.int/docu/review/articles/2019/06/28/the-changing-shape-of-arctic-security/index.html
- Larter, David B. "The Arctic is a Strategic Hot Spot, but Western Allies Lack Good Intel," DefenseNews, 21 September 2020. https://www.defensenews.com/naval/2020/09/21/the-arctic-is-a-strategic-hot-spot-but-western-allies-lack-good-intel/

- Lasserre, Frédéric, « Géopolitiques arctiques: pétrole et routes maritimes au cœur des rivalités régionales ? » Critique Internationale, 2010/4 (no. 49). https://www.cairn.info/revue-critique-internationale-2010-4-page-131.html
- Lewis, Andrew L., Remarks to the Defence and Security Committee at the Annual Session of the NATO Parliamentary Assembly, Halifax, Canada, 17 November 2018.
- Lino, Marisa, "Understanding China's Arctic Activities," *IISS analysis*, 25 February 2020. https://www.iiss.org/blogs/analysis/2020/02/china-arctic
- Long, Austin and Brendan Rittenhouse Green, "Stalking the Secure Second Strike: Intelligence, Counterforce, and Nuclear Strategy," *Journal of Strategic Studies*, 38:1-2, 38-73. https://www.tandfonline.com/doi/pdf/10.1080/01402390.2014.958150
- Maritime Executive, "Russia Tightens Control Over Northern Sea Route," 3 August 2019.
 - (a) "Suez Canal Maintained Volumes in 2020 and Extends Incentives for 2021," 4
 January 2021. https://www.maritime-executive.com/article/suez-canal-maintained-volumes-in-2020-and-extends-incentives-for-2021
 - (b) "Russian LNG Carrier Completes Winter Trips on the Northern Sea Route," 19 February 2021. https://www.maritime-executive.com/article/russian-lng-carrier-completes-winter-trips-on-the-northern-sea-route
- Maritime Magazine, "Northeast Passage Opened 88 Days Setting New Arctic Record," 15 December 2020. https://maritimemag.com/en/northeast-passage-opened-88-days-setting-new-arctic-record/
- Mehta, Aaron, "Finland, Sweden, and US Sign Trilateral Agreement, With an Eye on Increased Exercises," *DefenseNews*, 9 May 2018. https://www.defensenews.com/training-sim/2018/05/09/finland-sweden-and-us-sign-trilateral-agreement-with-eye-on-increased-exercises/
- Melino, Matthew and Heather Conley, "The Ice Curtain: Russia's Arctic Military Presence," CSIS, 26 March 2020. https://www.csis.org/features/ice-curtain-russias-arctic-military-presence
- Ministry of Foreign Affairs of Denmark, "Kingdom of Denmark Strategy for the Arctic 2011-2020", 29 April 2015, https://um.dk/~/media/um/english-site/documents/politics-and-diplomacy/greenland-and-the-faroe-islands/arctic%20strategy.pdf?la=en .
- Moe, Arild, "A New Russian Policy for the Northern Sea Route? State Interests, Key Stakeholders, and Economic Opportunities in Changing Times," *The Polar Journal*, 10:2, 2020. https://www.tandfonline.com/action/showCitFormats?doi=10.1080/2154896X.2020.1799611
- Molenaar, Erik. 2016. "The Evolution of The Arctic Council and The Arctic Council System". *The Circle WWF Magazine*. https://wwfint.awsassets.panda.org/downloads/thecircle0216_web.pdf.
- Murray, Kathleen, "The Arctic Council: A Brief History, Its Partnership with Indigenous Groups of The Arctic, And Its Role in Uncovering and Addressing Health Issues in The Far North," *Journal of The Canadian Health Libraries Association / Journal de l'Association des bibliothèques de la santé du Canada* 35 (1): 27, 2014. doi:10.5596/c14-006
- NASA, "Arctic Ice Melt is Changing Ocean Currents," NASA News, 6 February 2020. https://climate.nasa.gov/news/2950/arctic-ice-melt-is-changing-ocean-currents/
- NATO, Brussels Summit Declaration, 11 July 2018, https://www.nato.int/cps/en/natohq/official_texts_156624.htm
- NATO, NATO 2030: United for a New Era, 25 November 2020. https://www.nato.int/nato_static_fl2014/assets/pdf/2020/12/pdf/201201-Reflection-Group-Final-Report-Uni.pdf
- NATO, Allied Air Command, "Russian Fighter Jet Violates NATO Airspace over Bornholm Island," 31 August 2020. https://ac.nato.int/archive/2020/russian-fighter-jet-violates-nato-airspace-over-bornholm-island
- NATO Maritime Command (MARCOM), "NATO Begins Cooperation with Danish Joint Arctic Command in Greenland," 1 October 2020. https://mc.nato.int/media-centre/news/2020/nato-begins-cooperation-with-danish-joint-arctic-command-in-greenland
- NATO PA, Remarks Made by NATO Secretary General Jens Stoltenberg, Plenary Sitting, Annual Session, 12 October 2015.

- Sub-Committee on Transatlantic Defence and Security Cooperation (DSCTC) visit to Norway, 10-12 May 2017. www.nato-pa.int/document/2017-mission-report-dsctc-visit-kirkenes-norway-183-dsctc-17-e
- (2020a) Russian Military Modernisation: Challenges Ahead for NATO Allies, Defence and Security Committee, (030 DSC 20E rev. 2 fin), 22 November 2020. https://www.nato-pa.int/document/2020-revised-draft-report-russian-military-modernisation-challenges-ahead-nato-allies
- (2020b) Declaration 460 NATO 2030: A More United and Stronger Alliance on the Global Stage, NATO Parliamentary Assembly, Attila Mesterhazy (Hungary), 23 November 2020. https://www.nato-pa.int/document/2020-declaration-460-nato-2030
- Nilsen, Thomas, "Here Comes a Nuclear Submarine Longer than the World has Ever Seen," The Barents Observer, 23 April 2019. https://thebarentsobserver.com/en/security/2019/04/worlds-longest-here-comes-submarine-world-has-never-seen
 - "Russia's Most High-Tech Multi-Purpose Nuclear Sub Further Delayed," The Barents Observer, 3 March 2021. https://thebarentsobserver.com/en/security/2021/03/russias-most-high-tech-multi-purpose-nuclear-sub-further-delayed
 - Nilsen, Thomas (a), "Emergency cooperation gets priority amid military buildup and COVID crisis", The Barents Observer, 2 June 2021.
 https://thebarentsobserver.com/en/security/2021/06/emergency-cooperation-gets-priority-amid-military-buildup-and-covid-crisis.
 - Nilsen, Thomas (b), "Norway will host its biggest Arctic exercise since Cold War next year", Arctic Today, 15 April 2021. https://www.arctictoday.com/norway-will-host-its-biggest-arctic-exercise-since-cold-war-next-year/.
- NORDEFCO, Annual Report 2018. <a href="https://www.nordefco.org/Files/AnnualReport-Nordefco.or
- Nordenmann, Magnus, "Russian Subs are Reheating a Cold War Checkpoint", Defense One, 4 March , 2016. https://www.defenseone.com/ideas/2016/03/russian-subs-are-reheating-cold-war-chokepoint/126428/
- Novichkov, Nikolai, "Russian Navy Commissions Project 885M Submarine Kazan," Janes. 10 May 2021. https://www.janes.com/defence-news/news-detail/russian-navy-commissions-project-885m-submarine-kazan
- Novy Isvestia, "Россия инвестирует в Арктику \$86 млрд," 8 марта 2019. https://newizv.ru/news/economy/28-03-2019/rossiya-investiruet-v-arktiku-86-mlrd
- Observatoire de l'Arctique, *Bulletin Janvier 2020*, Etats observateurs Union européenne. http://www.observatoire-arctique.fr/analyses-regionales/bulletin-janvier-2020-etatsobservateurs-union-europeenne/
- OECD, International Transport Forum, "Decarbonising Maritime Transport: Pathways to Zero-Carbon Shipping by 2035," 2018. https://www.itf-oecd.org/sites/default/files/docs/decarbonising-maritime-transport-2035.pdf
- Olsen, John Andreas, *NATO* and the North Atlantic: Revitalising Collective Defence, "Introduction: The Quest for Maritime Supremacy," Whitehall Papers, 87:1, 3-7. https://doi.org/10.1080/02681307.2016.1291017
- Ong, Tong, "Russia's Anti-Hypersonic Missile Radar to Deploy in Arctic by June," The Defense Post, 15 April 2021. https://www.thedefensepost.com/2021/04/15/russia-anti-missile-radar-arctic/
- Overfield, Cornell, "An Off-the-Shelf Guide to Extended Continental Shelves and the Arctic", Lawfare Blog, 21 April 2021. https://www.lawfareblog.com/shelf-guide-extended-continental-shelves-and-arctic.
- O'Rourke, Ronald, "China Naval Modernization: Implications for U.S. Navy Capabilities— Background and Issues for Congress", *Congressional Research Service*, 27 January 2021, https://fas.org/sgp/crs/row/RL33153.pdf.
 - "Changes in the Arctic: Background Issues for Congress," *Congressional Research Service*, 16 July 2021.
- Parliament of Iceland [Althingi], "A Parliamentary Resolution on Iceland's Arctic Policy", 28 March 2011, https://www.government.is/media/utanrikisraduneyti-media/media/nordurlandaskrifstofa/A-Parliamentary-Resolution-on-ICE-Arctic-Policy-approved-by-Althingi.pdf .

- Pincus, Rebecca, "China's Polar Strategy: An Emerging Grey Zone?" *The Diplomat*, 6 July 2018. https://thediplomat.com/2018/07/chinas-polar-strategy-an-emerging-gray-zone/
 - "Three-Way Power Dynamics in the Arctic," Strategic Studies Quarterly, Vol. 14, No. 1, (Spring, 2020). https://www.jstor.org/stable/pdf/26891883.pdf?refreqid=excelsior%3Af63a13290dab3efcaf844a1d0905b307
- Pincus, Rebecca and Walter Berbrick, "Gray Zones in a Blue Arctic: Grappling with China's Growing Influence," War on the Rocks, 24 October 2018. https://warontherocks.com/2018/10/gray-zones-in-a-blue-arctic-grappling-with-chinas-growing-influence/
- PRC, "China's Arctic Policy," The State Council, 26 January 2018. http://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.html
- Presidency of the Russian Federation, "Basic Principles of Russian Federation State Policy in the Arctic to 2035 [Об основах государственной политики Российской Федерации в Арктике на период до 2035 года]", 5 March 2020, http://static.kremlin.ru/media/events/files/ru/f8ZpjhpAaQ0WB1zjywN04OgKil1mAvaM.pdf.
- Quinn, Eilis, "The Viking Sky Incident A Wake Up Call for the Arctic Cruise Industry?" Radio Canada International, *Eye on the Arctic*, 26 March 2019.
- Reuters, "Russia Calls for Military Meetings Bewteen Arctic States as Tensions Rise," 20 May 2021(b). https://www.reuters.com/world/russias-lavrov-calls-military-dialogue-between-arctic-states-2021-05-20/
 - "Three Russian Submarines Surface and Break Arctic Ice During Drills," 26 March 2021(a). https://www.reuters.com/article/us-russia-military-arctic-idUSKBN2BI2RZ
 - "Russia Launches New Nuclear-Powered Icebreaker in Bid to Open Up Arctic," 26 May 2019. https://www.theguardian.com/world/2019/may/26/russia-launches-new-nuclear-powered-icebreaker-in-bid-to-open-up-arctic
- Ren, Carina and Daniela Chimirri, "Arctic Tourism More than an Industry?", The Arctic Institute, 3 April 2018. https://www.thearcticinstitute.org/arctic-tourism-industry/.
- Rodman, Lindsay, "Iceberg Dead Ahead! Deconstructing the Pentagon's Arctic Strategies," War on the Rocks, 25 September 2019. https://warontherocks.com/2019/09/iceberg-dead-ahead-deconstructing-the-pentagons-arctic-strategies/
- Runge, Claire, RM Daigle, VH Hauser, "Quantifying Tourism Booms and the Increasing Footprint in the Arctic with Social Media Data," PLOS ONE, 16 January 2020. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0227189#pone.0227189.ref
- Sengupta, Somini, "United States Rattles Arctic Talks with a Sharp Warning to China and Russia," *The New York Times*, 6 May 2019.
- Sengupta, Somini and Steven Meyers, "Latest Arena for China's Growing Global Ambitions: The Arctic," The New York Times, 24 May 2019. https://www.nytimes.com/2019/05/24/climate/china-arctic.html
- Śmieszek, Małgorzata, and Timo Koivurova, "The Arctic Council: Between Continuity and Change," in One Arctic: The Arctic Council and Circumpolar Governance, ed. P. Whitney Lackenbauer, et al., 2017. https://www.sju.ca/sites/default/files/One-Arctic-1-2017.pdf
- Smith, Julianne and Jerry Hendrix, "Forgotten Waters: Mining the GIUK Gap A Tabletop Exercise," Center for a New American Security (CNAS), May 2017. https://www.cnas.org/publications/reports/forgotten-waters
- Staalesen, Atle, "It's an Order from the Kremlin: Shipping on the Northern Sea Route to Reach 80 Million Tons by 2024," *The Barents Observer*, 15 May 2018 https://thebarentsobserver.com/en/arctic/2018/05/its-order-kremlin-shipping-northern-sea-route-increase-80-million-tons-2024
 - 2018(b) "Russia Presents an Ambitious 5-Year Plan for Arctic Investment," *The Barents Observer*, 14 December 2018.
 - 2019 (a)"Experiences from Syria important for Northern Fleet, Says New Head Commander," The Barents Observer, 25 June 2019.

 https://thebarentsobserver.com/en/security/2019/06/experiences-syria-important-northern-fleet-says-vice-admiral

- 2019(b) "30 Russian Naval Vessels Stage Show of Force Near Coast of Norway," The Barents Observer, 15 August 2019. https://thebarentsobserver.com/en/security/2019/08/30-russian-naval-vessels-stage-show-force-coast-norway
- 2020(a) "Russian Arctic Shipping Could Follow This New Route," *The Barents Observer*, 19 May 2020. https://thebarentsobserver.com/en/arctic/2020/05/russian-arctic-shipping-could-follow-new-route
- 2020(b) "It is Time to Strengthen Nordic Security, Say Ministers as They Sign Landmark Deal," *The Barents Observer*, 24 September 2020.
 https://thebarentsobserver.com/en/security/2020/09/it-time-strengthen-nordic-security-say-ministers-they-sign-landmark-defense
- 2020(c) "Shipping on the Northern Sea Route Breaks Record," *The Barents Observer*, 22 December 2020.
- "New Russian Fighter Jets on Standby in Upgraded Arctic Air Base," *The Barents Observer*, 8 February 2021.
- "Crisis-Ridden Norwegian Cruise and Adventure Company Sells Properties in Svalbard," Radio Canada International, *Eye on the Arctic*, 31 March 2021. https://www.rcinet.ca/eye-on-the-arctic/2021/03/31/crisis-ridden-norwegian-cruise-and-adventure-company-sells-properties-in-svalbard/
- Stephen, Kathrin, "Continuity or Reform? The Future of The Arctic Council". *High North News*. https://www.highnorthnews.com/en/continuity-or-reform-future-arctic-council.
- Sun, Yun, "The Northern Sea Route: The Myth of Sino-Russian Cooperation," The Stimson Center, 27 November 2018. https://www.stimson.org/wp-content/files/file-attachments/Stimson%20-%20The%20Northern%20Sea%20Route%20-%20The%20Myth%20of%20Sino-Russian%20Cooperation.pdf
- Sydnes, Are Kristoffer, Maria Sydnes and Yngve Antonsen, "International Cooperation on Search and Rescue in the Arctic", Arctic Review on Law and Politics 8, September 2017. https://doi.org/10.23865/arctic.v8.705.
- Taithe, Alexandre, et. al, « Observatoire de l'Arctique », *Observatoire de l'Arctique*, Bulletin No. 14, July 2020. http://www.observatoire-arctique.fr/analyses-regionales/bulletin-juillet-2020-etats-observateurs-union-europeenne/
- TASS Russian New Agency, "Минобороны построило в Арктике уже 475 объектов военной инфраструктуры", 11 March 2019. https://tass.ru/armiya-i-opk/6204831
- Ulmer, Fran. 2019. "A Strategic Plan for The Arctic Council: Recommendations for Moving Forward". *Belfer Center For Science and International Affairs*. https://www.belfercenter.org/publication/strategic-plan-arctic-council-recommendations-moving-forward.
- United Nations Division for Ocean Affairs and the Law of the Sea, "United Nations Convention on the Law of the Sea. Declarations made upon signature, ratification, accession or succession or anytime thereafter", United Nations, 12 February 2020. https://www.un.org/depts/los/convention_agreements/convention_declarations.htm.
- United Nations, Food and Agricultural Organization, "The State of World Fisheries and Aquiculture: Sustainability in Action," Rome, 2020. http://www.fao.org/3/ca9229en/CA9229EN.pdf
- United States Department of Defense, "Report to Congress. Department of Defense Arctic Strategy", 6 June 2019, https://media.defense.gov/2019/Jun/06/2002141657/-1/-1/1/2019-DOD-ARCTIC-STRATEGY.PDF
- United States European Command (USEUCOM), "Military Leaders Address Collective Arctic Security Issues," U.S. European Command Public Affairs, Stuttgart, Germany, 10 May 2021. https://www.eucom.mil/pressrelease/41236/military-leaders-address-collective-arctic-security-issues
- United States Navy, "A Blue Arctic," Department of the Navy: A Strategic Blueprint for the Arctic, January 2021. https://media.defense.gov/2021/Jan/05/2002560338/-1/-1/0/ARCTIC%20BLUEPRINT%202021%20FINAL.PDF/ARCTIC%20BLUEPRINT%202021%20FINAL.PDF
- Walsh, Nick Paton, "Satellite Images Show Huge Russian Military Buildup in the Arctic," CNN, 5 April 2021,
 - https://edition.cnn.com/2021/04/05/europe/russia-arctic-nato-military-intl-cmd/index.html

White House, United States Government, "National Strategy for the Arctic Region", 10 May 2013. https://obamawhitehouse.archives.gov/sites/default/files/docs/nat_arctic_strategy.pdf.

Winkler, David F., "Searching the Skies: The Legacy of the United States Cold War Defense Radar Program," *Federation of American Scientists*, June 1997.

https://fas.org/nuke/guide/usa/airdef/searching_the_skies.htm

Wishnick, Elizabeth, "Will Russia Put China's Arctic Ambitions on Ice?" The Diplomat, 5 June 2021.

www.nato-pa.int