



The Northern Sea Route: A Strategic Flashpoint in the Emerging US-Russo Arctic Rivalry

Fawad Afridi

MPhil Scholar (Independent Researcher) International Relations Department, National Defense University, Islamabad

ABSTRACT

The dramatic warming of the Arctic reshapes the Earth's geopolitical implication; the Northern Sea Route (NSR) has become the focal point of rivalry between the United States and Russia. This study looks at Russian strategic investment and military developments aimed at dominating the NSR and compares them to the strategic responses and concerns of the United States. To support the year-round navigation, Russia has significantly expanded its Arctic infrastructure, including the modernization of key ports and development of nuclear-powered icebreakers and economic gains from more ships sailing through the Arctic. As it becomes, Moscow has increased its military post in the Arctic, by reopening Soviet era bases, and deploying advanced missile systems, which reinforce its territorial claims as well as guarantees its interests along NSR. By stark contrast, Russia has been increasingly concerned for the United States, which has stressed the need to preserve freedom of navigation and to not militarize the Arctic. The Arctic region of the U.S. has sought to strengthen its relationships with other Arctic nations and has sought to foster its own capacity to operate out of the region. Furthermore, this interplay manifests the why the NSR is set to play such an important role in determining the future geopolitical landscape of the Arctic and, as a result, international trade, security and environmental stewardship.

Keywords: Northern Sea Route, Arctic Geopolitics, U.S.-Russia Rivalry, Strategic Investments, Military Developments, Arctic Infrastructure, Freedom Of Navigation, Environmental Stewardship.

1. Introduction:

The Arctic region was once a distant and desolate frontier has become a focal point of global geopolitical and economic competition. Climate change has been accelerating the melting of Arctic ice, laying open new opportunities for extraction of resources, trade, and strategic control. Among these opportunities, a special place is taken by the Northern Sea Route (NSR) – a maritime corridor between Europe and Asia along the Russian northern coast. A shorter, and potentially more cost effective, route for the NSR holds strategic importance by way of its implications for the geopolitics of global trade, as a shorter, and usually more cost-effective route than other such major trading routes like the Suez Canal (Humpert & Raspotnik, 2012).

Largely due to the decline of ice cover, the NSR leads to open access to Russia's north, and the increase in its accessibility has spurred heated competition between the two main players: the Russian Federation and the United States. The NSR is a key part of Russia's Arctic strategy, and Moscow has made significant investments in infrastructure, military presence, and economic development to maintain control of the route (Laruelle & Peyrouse, 2020). For Russia, the NSR is seen as a national resource and its development as an engine of economic growth

intended to extend Russian power into the region, due to Russian geographic advantage and an abundance of natural resources in the region (Lackenbauer, 2020). In contrast, the United States sees Russia's dominance of the NSR as an act to undermine the principle of free navigation and American global power (Pincus & Berbrick, 2022).

The Arctic is viewed by the U.S. as a strategic frontier where unchecked Russian expansion threatens to upset the balance of power, a geopolitical rivalry that is only complicated further by wider strategic considerations (Ebinger & Zambetakis, 2009). In the Arctic, vast unexploited natural resources such as oil, gas and rare minerals are melting away because of retreating ice and have become more accessible (Byers, 2013); control of the NSR is more than an economic boon; it provides a nation with additional muscle to flex and extend reach across the region. However, international frameworks such as the Arctic Council endeavor to foster cooperation, but differences in national interests and the militarization of the Arctic threaten to lead them further apart.

This study seeks to investigate the political and economic aspects of the US – Russia rivalry for the NSR, regarding their reasons for such deeds, the means they have employed to achieve their goals and their outcome for the international and regional power structure. The research instead aims to illuminate this essential maritime route and how the Arctic is being transformed into a second front in the great war over a warming world. This research will yield findings that will enhance our understanding of the interaction of power, competition and economic interests in one of the most strategically important regions of the 21st century.

2. Statement of the Problem

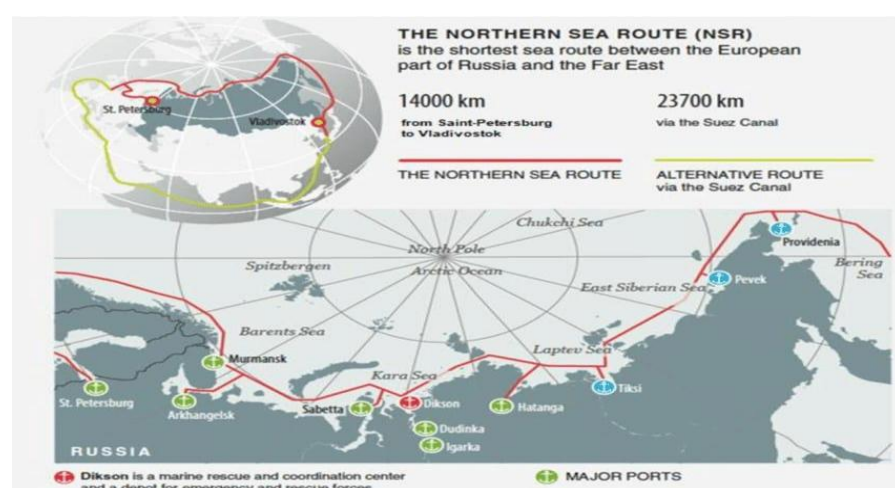
The Arctic is opened by the Northern Sea Route (NSR) and is thus a strategic arena due to climate change. The reduction in transit times between Europe and Asia through the NSR strongly increases US-Russia rivalry. Russia sees itself as a top dog of the route and uses its geographic advantage through investments in infrastructure, economic projects and military presence to dominate it. On the other hand, Russia's control, in the eyes of the US, constitutes a threat to free navigation and global trade. This work examines the geopolitics and geoeconomics of this rivalry and its implications for the state who will dominate the Arctic.

3. Research Objectives

- This study applies this framework to analyze the geopolitical motivations behind United States and Russian competition over the Northern Sea Route (NSR).
- To investigate Russia's strategic investments and military developments along the NSR with a purpose to examine their impacts on the U.S. Arctic policies.
- The simple supply and demand model to assess the economic impact of the US-Russia rivalry over the NSR on regional trade, global shipping routes, and international commerce.
- It seeks to examine how the friction in the NSR rivalry shifts the distribution of power and the strategic dimensions of the Arctic region.

4. Research Questions:

1. What are the primary geopolitical motivations behind the rivalry between the U.S. and Russia on the Northern Sea Route?
2. How does Russia's strategic investment in its infrastructure of the NSR and military mean for the US dominance of the Arctic and global trade routes?
3. What economic consequences might the US — Russia rivalry over the NSR have for the regional and global shipping and trade dynamics?



4.1. Research Significance:

This study is significant for understanding the evolving power dynamics in the Arctic region in which the Northern Sea Route (NSR) is becoming a critical axis for geopolitical and economic interests in the region. The rivalry between the United States and Russia over the NSR as climate change reconfigures global trade routes provides a unique window through which to view the wider context in which strategic dominance is the ultimate source of warming the world. The findings of this research will contribute to the following:

Policy Formulation: The study will analyze the geopolitical and economic aspects of the US-Russia rivalry, as such analysis will give strategic recommendations for Arctic policymakers and stakeholders to make a better informed decision in power competition in the region and elsewhere in the world.

Economic Implications: The research will show how the economic stakes of the NSR can change global trade patterns and business opportunities for everyone from private businesses to governments and international organizations.

Strategic Studies: Arctic competition reflects larger global trends in power projection and resource competition, knowledge of which will be beneficial for scholars and practitioners in international relations and strategic studies.

Global Stability: It would also shed light on what escalating tensions in the Arctic could mean for international stability, and raise awareness on the importance of diplomatic and cooperative frameworks to managing emerging challenges.

5. Methodology:

The present work will be based on qualitative research using descriptive, analytical and comparative methods for the research into the rivalry between the US and Russia for the Northern Sea Route (NSR). In order to address the objectives of the research, the study will be in the form of analyzing data, documents as well as information from the other experts.

5.1. Research Design

For the rivalry, the study is structured as an exploratory analysis of the political and economic dimensions. In particular it will study the reasons, methods and results of the Arctic wars between the United States and Russia.

5.2. Data Collection

5.2.1. Primary Data Source:

This research includes policy and strategic papers, analysis of official statements, policy documents, and government publications of the United States and Russia regarding the Arctic, and the NSR.

5.2.2. Secondary Data Sources

Academic Literature: Books and journal articles on Arctic geopolitics and the NSR were reviewed.

Media Reports: A look at some credible news articles and recent reports on Arctic developments.

International Reports: Documents analysis sourced from the Arctic Council, NATO, and classical think tanks focused on Arctic affairs.

6. Core Argument:

The continued climate change makes Arctic waters more open to navigation, the Northern Sea Route (NSR) has become a focal point of geopolitical competition, in particular between Russia and the United States. The NSR is rather an aim for Russia to maintain sovereignty over and make use of (economically and militarily) as a tool for economic gain and strategic positioning. On the other hand, though, the United States supports freedom of navigation and sees the NSR as international waters with reservations about Russian militarization and regulatory control in the region. But this divergence is also part of a wider clash – a clash where both nations are each trying to protect their interests in the Arctic as the environment and geopolitical conditions change.

7. Literature Review:

The academic and policy attention to the Arctic region has been increasing in the 21st century, since it has become strategically, economically, and geopolitically significant. The rapid melting of Arctic ice continues to render the Northern Sea Route (NSR) more and more accessible, thereby stimulating a growing amount of research into the shifting global power dynamics. This thesis collects key studies on geopolitical, economic, and strategic implications of the NSR, with focus on rivalry between the US and Russia.

7.1. The NSR has Geopolitical Significance

The NSR is regarded by scholars as a strategic asset in global geopolitics. The authors Ebinger and Zambetakis points out that with its reduced transit times between Europe and Asia, the NSR has become potentially an alternative to the traditional shipping routes, like the Suez Canal (Dodds & Nuttall, 2019). They state that control of the NSR could change, giving great advantage to a dominant power of the region. Sale and Potapov, for example, point to the geographic advantage Russia has, with natural access to the NSR on its Arctic coastline, giving it considerable leverage over the route. They show the U.S. perspective, about free navigation and ensuring no single country dominates Arctic trade routes, as consistent with broader U.S. objectives to maintain an open international order, but this is also matched by U.S. worries about Russia's expansion in the Arctic.

7.1.1. Russia's Arctic Strategy

Russia has invested heavily in the infrastructure necessary for shipping along the NSR: giant icebreakers, expanded ports, and military facilities, according to Laruelle. Such efforts correspond to Moscow's conception of the Arctic as a national resource and a crucial impetus to Russia's economic and strategic goals (Sergunin & Konyshchev, 2015). Zysk adds that Russia's militarization of the Arctic reflects its desire to protect its monopoly and to prevent outside intervention. Russia's strategy is also motivated heavily by economic motivations. The NSR has the potential for substantial economic revenue, from the shipping itself to resource exploitation and energy exports (Østreng & et al, 2013). Russia has established 'Arctic Strategy 2035' to outline its commitment to maximizing these economic opportunities to bolster its economy, and its regional influence.

7.1.2. U.S. Interests and Responses

Despite not having a direct entry to the NSR the United States believes that the Arctic is an important region for its global strategic interests. The U.S. Arctic policy is a fundamentally defensive one (Conley & Melino, 2019). The United States prefers to do as little as possible inside the Arctic and instead use the alliances it has with other Arctic nations such as Canada and Norway to project its influence from outside the Arctic region. Other studies point to the U.S. The Navy is increasingly focusing on the Arctic. According to Huebert, the U.S. military has pinpointed the Arctic as a 'key terrain area' for future operations and ensuring freedom of navigation while Russia has overshadowed the U.S. as being the powerhouse of the region due to its huge investments into infrastructure including icebreakers and port facilities (Huebert, 2013).

7.2. Economic Dimensions of the NSR Rivalry

The NSR theme is a recurring one, with associated economic implications. Offering a much shorter route between Europe and Asia by cutting down transit time by as much as 40%, the potential of the NSR has drawn interest from global shipping companies and countries that stand to benefit economically from the route (Humpert & Raspotnik, 2012). Moe and Brigham look into Russia's economic strategy in such an area as the Arctic and find out it is directly connected with its overall geopolitical plans. While Russia aims to develop the NSR as a controlled and regulated corridor to guarantee transit fees and increase its energy exports, as they have explained by Blunden who underscores the importance of the NSR as an open route to avoid monopolization and guarantee equitable access to international shipping (Moe & Brigham, 2017).

8. Theoretical Insights on Arctic Rivalry

Neorealism has served as the theoretical mainstay in approaching the Arctic rivalry. The Arctic competition, according to Kenneth Waltz, 'is simply a microcosm of broader structural dynamics in the international system' as states attempt to increase their relative power (Keohane & Nye, 2012). It is a natural site of great power competition, in which the NSR is a particularly contentious point (Waltz, 1979).

8.1. Gaps in the Literature

The existing research fills the void in the geopolitical, economic dimensions of the NSR rivalry, yet there are some gaps. There is limited analysis addressing how emergent technologies and climate science might further shape Arctic competition (Young, 2020); the role of other Arctic powers, including Canada and China, is under examined in relation to US – Russia rivalry (Lackenbauer & et al, 2018) and while theoretical frameworks in the form of neorealism and geopolitics are typically utilised, they may be combined with an examination from economic, strategic, and other perspectives (Sacks, 2021).

8.2. Theoretical Framework:

In the rivalry we are able to comprehend the great power contestation between the United States and Russia over the Northern Sea Route (NSR) through the lens of neorealism, a theory in international relations outlined by Kenneth N. Waltz. Neorealism, or structural realism, has the potential to generate theoretical richness, arguing that the anarchic structure of international system forces states to give primacy to survival via pursuit of power and security (Waltz, 1979). In other words, it offers a cogent explanation of strategic behavior on both sides in the Arctic context.

Neorealism proposes that in the international system with the absence of a central authority, states act to assure their own survival in a self help environment (Mearsheimer, 2001). Thus, the NSR turns into a strategic asset since it is able to reduce significantly shipping time between Europe and Asia, which implies enormous economic and military potential for its user (Young, 1992). Russia's policies in Arctic region, i.e. big investments in icebreaker fleets, development of military infrastructure, and imposition of regulatory acts on the NSR, can be regarded as a way of maximising the relative position and securing regional dominance (Buchanan, 2021). These actions conform to the neorealist thesis that the purpose of the states in a condition of international anarchy is to strengthen their capabilities to deal with uncertainty.

On the other hand, the United States focus on maintaining freedom of navigation and its strategic alliances with other Arctic States counterbalances in order to prevent any one state achieving hegemony in the Arctic (Østhagen, 2019). By advocating for the NSR to be an international waterway and opposing the unilateral attempt at control the U.S. works to maintain balance of power, a key aspect of neorealist theory. This approach applies to the U.S.-Russia rivalry over the NSR by highlighting the neorealist signification that states are mostly interested in relative gains and require protection against possible challenges to the equilibrium of power (Parzival, 2019). Simultaneously, it shows that both the United States and Russia are playing power politics due to the anarchic structure of the international system. They behave in the manner expected with the neorealist emphasis on survival; relative power; and a perpetual search for security — as they strive for the construction of the nation within a relatively safe context.

The policies of these states are explained through the theoretical framework and provide insights into how their foreign policies may further affect international relations in the Arctic region. This analysis locates the U.S.-Russia rivalry squarely in the neorealist paradigm and makes the argument that, in this regard, structural factors are still very important in understanding state behavior. This study emphasizes the fact that despite the lack of a universal, supreme order, competition and maneuvering among great powers in geopolitically important spaces like the Arctic will

continue to be shaped by the distribution of capability where there is no superior authority.

9. Discussion

This study is devoted to the discussion section, which clarifies the technical, strategic, and developmental aspects of the US-Russian rivalry over the Northern Sea Route (NSR). Using a critical analysis, this paper examines the infrastructural advancements, posturing of military forces, economic tactics and governance challenges associated with the NSR. This discussion elaborates on what these factors are in detail and how technological innovations, geopolitical calculations and economic imperatives determine the competition over this essential sea route, and illustrates this argument by examining a range of dimensions in detail.

9.1. Motivations for the clash of US and Russia in Geopolitical terms

As an essential geopolitical arena, the Arctic region, generally perceived as a distant and icebound frontier, is now turning out to be the wellspring of the world's immediate future with an alleged abundance of natural resources and climate change. Or the Northern Sea Route, a maritime passage that has become the center of a competition between the United States and Russia. And the geopolitical motivations behind this rivalry are national security concerns, economic ambitions, and more broadly a race for regional domination. This chapter focuses particularly on the NSR to explore the geopolitical imperatives underpinning Russia and US Arctic action.

9.2. Russia's Geopolitical Aspirations

9.2.1. Asserting Sovereignty

Russia's Arctic policies are intimately tied up with its claims of sovereignty of the Northern Sea Route (NSR), a crucial maritime axis that lies along its northern margin. Moscow claims exclusive jurisdiction over the NSR, supported by its reading of the provisions of the United Nations Convention on the Law of the Sea (UNCLOS) (United Nations 1982, Art. 234), particularly Article 234 granting coastal states regulatory authority over navigation, in ice-covered areas within their exclusive economic zones (EEZs), for prevention of marine pollution and protection of the fragile Arctic environment (Zysk, 2005). Moscow thus enforces restrictive regulations, including requiring foreign vessels using the NSR to obtain permission in advance (Sergunin & Konyshev, 2015), and in December 2022, Russia's State Duma passed legislation to further tighten control over the NSR by designating key straits on the route as internal waters (Arctic Council 2023), thereby further restricting freedom of navigation for foreign military and commercial vessels, an act that reinforces Russia's claim to sovereign rights in the NSR.

The Russian regulatory framework has been criticized by the United States and other maritime powers as being contrary to international law principles, particularly the right of innocent passage and freedom of navigation through international straits (Smieszek, 2018), various parts of the NSR should be considered international straits and therefore governed by rules of transit passage. Smaller portions of the route should be designated by Russia as straits consistent with international law, but Russia has treated all of the route as territorial waters restricting the right of innocent passage (Brigham, 2010). As a result, U.S. diplomatic and operational challenges have arisen from these conflicting legal interpretations. In the Arctic, the U.S. has conducted Freedom of Navigation Operations (FONOPs) to challenge what it considers excessive claims by Russia to its territorial waters, and to uphold international maritime norms and maintain unimpeded access to global commons (Koivurova, 2012). Nevertheless, such actions run the risk of increasing military tension in an already contentious Arctic region (Huebert, 2010). Russia's tight hold on the NSR is but one piece in a broader Russian approach of cementing primacy over the Arctic by taking advantage of its geographical position and legal interpretation to establish control over this new maritime frontier. With such a regulatory regime, in force that requires prior authorization of foreign vessels, not only

does Russia reinforce its sovereignty claims, but it also asserts itself as the gatekeeper of a very important global shipping lane, exercising increasing geopolitical influence as the Arctic becomes more accessible with climate change (Balton, 2021).

9.2.2. Strategic Buffer Zone

Russia has always considered the Arctic key to its defense strategy, serving both as a strategic buffer zone protecting its northern borders and as a launching pad for military power projection. In the Cold War, the Soviet Union put up a plethora of military installations across the Arctic to detect and neutralize any such threat from the United States or NATO, including early warning radars, airfields, and submarines bases, especially on the Kola Peninsula which literally led to the North Atlantic (Østreng & et al, 2013).

Russia's last open interest in the Arctic was in the post- Cold War era, when interest waned. Yet, with climate change opening up the region, and making it more accessible, and with the NSR becoming an emerging maritime route, the 21st century has seen Russia's Arctic ambitions make a come back (Buchanan, 2020). The NSR brings big commercial shipping advantages, and also has strategic military significance as a possible route for naval operations (Conley & Melino, 2019). To defend its authority, Russia has engaged in an extensive militarization of the Arctic. He also counts the reopening and modernisation of Soviet era bases, the establishment of new military facilities along its Arctic coastline and on key islands (Heininen, 2020).

It is noteworthy, however, that Russia has refurbished 13 air bases, 10 radar stations, 20 border outposts, and 10 integrated emergency rescue stations, vast improvements in its operational capacity in the region — and has deployed advanced missile systems that reinforce Russia's commitment to defense in the Arctic. Bastion-P coastal defence missile system (equipped with P800 Oniks supersonic anti ship missiles) has been placed on islands such as Kotelný and Alexandra Land (Berkman & Vylegzhanin, 2013). The systems allow Russia to maintain maritime access and power projection across the Arctic Ocean. Moreover, Russia is also focusing much on the expansion of its Northern Fleet in charge of Arctic operations. Russia has added new, ice capable vessels to its fleet, including nuclear powered icebreakers and submarines, enabling it to operate in the difficult Arctic environment (Zysk, 2011), and shows its readiness to defend its Arctic interests through regular military exercises in the region involving many thousands of troops (Bertelsen, 2020),

9.2.3. Economic and Strategic Leverage

Russia's Northern Sea Route (NSR), which cuts through its coastline along the Arctic, has been installed as a key piece in the economic and strategic puzzle. With Arctic ice melting fast due to climate change, the NSR has become more navigable, providing a maritime shortcut that reduces shipping distances between Europe and Asia by about 10 to 14 days over the Suez Canal (Huebert & Lackenbauer, 2016).

Russia sees the NSR as a tool for economic growth, with the transit fee and resource export that would generally increase its national revenue (Piskunov, 2021). the shortened route of the NSR means lower fuel and operational costs for shipping companies which is why the route is becoming more attractive in global trade (Emmerson, 2010); Furthermore, Russia's investments in Arctic infrastructure such as development of ports and an expansion of icebreaker fleet to ensure all year navigability shows that Russia is attempting to capture strategic advantage on global trade by being able to influence maritime traffic between Europe and Asia (Gunnarsson, 2015).

Access to the Arctic and transit fees to pass through the NSR can be used to the full by Russia to assert sovereignty and economic interests in the Arctic (Powell & Dodds, 2019), and act as a geopolitical tool to promote alliances with nations using the NSR on the Arctic shipping ladder, such as China, which is showing more interest and investment in Arctic shipping routes (Willis, 2016).

Despite its potential, the obstacles to using the NSR are severe: harsh environmental conditions, limited or non existent physical infrastructure, geopolitics (Byers, 2016). Because navigation in the Arctic is for now only possible with specialized vessels capable of operating in ice covered waters (Greaves, 2018), and because the region has such a fragile ecosystem, environmental safeguards are going to need to be very stringent.

9.3. The United States Geopolitical Concerns:

The strategic significance of the Arctic region has aroused such attention in recent years that the United States has come to regard the area as a strategic priority that must be fit into its global missions and approach to maintaining international order. The U.S. is not as far geographically close to the Northern Sea Route (NSR) as Russia but it views the Arctic as vital to the protection of maritime interests and to push back against Russian influence. Freedom of navigation is a core principle of U.S. Arctic policy and its central tenet opposes any nation seeking to claim sole authority over international waters (Conley & Melino, 2019); the U.S. unequivocally rejects Russia's claims over the NSR and maintains that the route must remain subject to the principles of international laws (Huebert, 2010) putatively to protect the U.S. commitment to prevent the monopoly over the strategically important international maritime routes and only to ensure that global trade routes remain competitive (Byers, 2013);

Russia's militarization, along with curative policy towards the NSR, are regarded by the U.S. as part of a more comprehensive strategy to increase Russian global influence (Zysk, 2011). The U.S. reacts: it has increased its military presence in the Arctic, conducted Freedom of Navigation Operations (FONOPs) and has strengthened its relations with other Arctic countries, including Canada and Norway (Young, 1992). All of this is aimed at countering Russian influence in the Arctic and ensuring that the Arctic remains an area for peaceful cooperation (Sergunin & Konyshev, 2015). The United States emphasizes cooperation with its allies in the Arctic to counter Russia and to resolve common challenges (Heininen, 2020). By using NATO and the Arctic Council, the U.S. is trying to build a coalition of countries with similar interests in maintaining the international rules and regional stability (Østhagen, 2019). This approach is part of a more general strategy of the United States to use its alliances to preserve its global leadership (Powell & Dodds, 2019).

The NSR is just one part of a larger geopolitical environment of shifting power and novel regional contests. As a microcosm of these broader trends, the NSR is central to the future strategic direction of the Arctic (Smieszek, 2018). It is the US and Russia that are key players in the NSR competition, but other nations, namely China, are claiming growing stakes in the Arctic and are intensifying investment in Arctic infrastructure, including partnerships with Russia in the development of the NSR (Laruelle, 2014). China has proclaimed itself 'a near Arctic state' and has invested in Arctic infrastructure, especially in the NSR, to the point of partnering with Russia to develop it (Buchanan, 2020). The rise in multipolarity in the Arctic makes for more complex calculations of geopolitics, and the NSR is becoming an arena of contestation for the NSR among multiple actors (Lackenbauer, 2018).

Geopolitical competition in the region has been driven in particular by the rapid melting of Arctic ice due to climate change. Nati Asma, Nest of Dragons: Arctic actors, sovereignty perspectives, and claims to the Northern Sea Route (Emmerson, 2010). Meghan L. O'Sullivan, Biting Off More Than We Can Chew? Arctic Strategy and the Northern Sea Route (Østreng & et al, 2013). Therefore, control over the NSR has become a symbol of global power and influence (Koivurova, 2013).

For Russia, dominance over the route helps reinforce its status as a resurgent great power capable of shaping regional and global dynamics (Balton, 2021). For the United States, utilizing the NSR is a part of its broader goal of preserving the international order (Huebert, 2013).

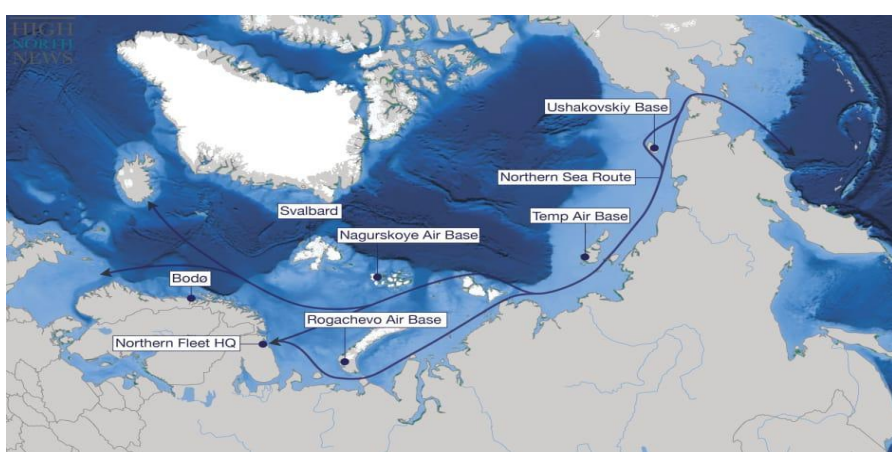
The Arctic has turned into the U.S.'s tabula rasa in its efforts to protect international norms, deter Russian advances, and find allies who can help hold things together in the region. At the heart of this geopolitical contest is the NSR, a datum to the broader power dynamics and the struggle to shape the future of what is becoming an increasingly accessible – and contested – region (Willis, 2016).

10. Russia's Strategic Investment And Military Development:

10.1. Russia's Strategic Investments and Military Developments in the Arctic

Russia's engagement in strategic investment and military development of the Arctic has served a major contributing factor in its assertion of primacy over the Northern Sea Route (NSR), a principal element of Russian geopolitics and economic strategy. Stretching almost 6,000 kilometers along Russia's Arctic coast, the NSR provides a drastically shorter maritime link between Europe and Asia, saving both shipping times and money (Laruelle, 2014). To take advantage of this advantage, Russia has invested heavily in infrastructure, technological advances and military expansion to establish and continue remaining a major Arctic power (Zysk, 2011).

Expansion and modernization of the fleet of icebreakers is a cornerstone of Russia's Arctic strategy to ensure year-round navigability of NSR. Russia possesses the world's biggest fleet of



nuclear icebreakers, as of 2023, including the Arktika, Sibir, and Ural, which can crack ice up to 2.8 metres thick (Sergunin & Konyshov, 2015); five more, nuclear icebreakers are to be built by 2030 with the aim to make the Lider class of icebreakers able to cut through ice up to 4 metres thick, thus allowing for the escorting of larger, commercial ships through the NSR (Østreng & et al, 2013); Apart from its icebreaking capabilities, Russia has invested heavily in developing and modernizing ports and logistics hubs close to the NSR to serve increased shipping activity (Koivurova, 2013). The westernmost point of the NSR is served by the port of Murmansk, a critical logistics hub for Arctic shipping and resource export (Conley & Melino, 2019). Further east, the port of Sabetta, constructed to support the Yamal LNG project, has attracted over \$27 billion dollars of investment and is designed to handle large exports of liquefied natural gas (LNG) (Huebert, 2010). Small ports such as Dikson and Tiksi are also being modernized to handle growing Arctic shipping (Balton, 2021).

In order to increase the safety and efficiency of navigation along the NSR, Russia has equipped advanced digital navigation systems, from satellite based monitoring and communication networks, to provide real time updates about ice conditions and ship movements (Byers, 2013). All ships using the NSR are mandated to use Russian navigation services, to increase its control over the route and restrict a vessel's movements in accordance to its regulations (Heininen, 2020).

Russia's economic strategy centers on the vast natural resources of the Arctic, which are estimated to contain about 90 billion barrels of oil and 1,669 trillion cubic feet of natural gas (United States 2020). One reflection of Russia's Arctic energy aspirations is the Yamal LNG project, which produces in excess of 16.5 million tons of LNG annually (Emmerson, 2010). Its strategic location at the NSR means it saves on transport costs and time to European and Asian market destinations (Zysk, 2005). And

building on this success, the Arctic LNG 2 project, due to come on line in 2025, will put another 19.8 million tons of LNG annually into production, signaling how important the NSR is becoming economically (Bertelsen, 2020).

The economy of these interests requires a large military presence in the Arctic to secure them. Russia has reactivate and modernized several Soviet era military bases strengthening its operational capabilities in the region (Piskunov, 2021) and Nagurskoye Air Base on Franz Josef Land can be used for landing advanced military piloted aircraft and drones and is used by Russia to monitor and defend NSR while Temp Air Base on Kotelny Island is positioned to monitor the eastern sections of the NSR (Smieszek, 2018)

Besides infrastructure, Russia boasts of advanced weaponry in the Arctic, including the S-400 missile systems which constitute a kind of defensive shield of strategic value for important installations (Gunnarsson, 2015), Russia has tested and deployed hypersonic missiles, the Zircon, and the art of maintaining the strategic breakthrough in the region (Berkman & Vylegzhanin, 2013). The Northern Fleet, based in Murmansk, is the essential element of the Arctic defense, equipped with advanced nuclear submarines, including submarines of Borei of a class with ballistic missiles, and is able to spread power throughout the Arctic and beyond (Willis, 2016).

Russia's militarization of the Arctic further contributes to its operational readiness in defending its Arctic interests, through regular military exercises like the "Umka" series that involve thousands of troops, naval ships and aircraft in even the most extreme of conditions (Powell & Dodds, 2019). These drills show Russia's ability to operate in extreme conditions. The Arctic demonstrates Russia's capability to operate in extreme conditions (Tennberg, 2016). It acts as a deterrent against potential challenges to its position from other Arctic nations and NATO, guarding its ability to respond effectively to threats in the region (Bykov, 2018)

10.2. The NSR Rivalry and its Economic Implications

Nor the Northern Sea Route (NSR), has emerged as a transformative maritime corridor providing a shorter, lower cost link between Europe and Asia. Climate change is making the Arctic more navigable, increasing the potential that the NSR will reshape global trade dynamics, fueling geopolitical competition, especially between Russia and the United States (Ebinger & Zambetakis, 2009); competition where winner takes all economic considerations for shipping industries, energy markets, and regional economies (Lackenbauer, 2018).

By shortening transit distances and times by such a large amount the NSR affords a huge advantage over traditional shipping routes such as the Suez Canal. A journey from Rotterdam to Shanghai through the NSR can be 11 days shorter than the trip through the Suez Canal, and up to 40% shorter, taking about 23 as opposed to 34 days (Sacks, 2021). As such, shipping companies are able to reduce traveling times and consequently fuel consumption and expenditures on operations (Dodds & Nuttall, 2019). Estimates suggest that the cost of the voyage will drop by 15–20% if the NSR is used instead of the Suez Canal, and that this route will prove to be very attractive for bulk carriers as well as container ships (Laruelle, 2019).

The navigable window for NSR has extended to 6–8 months per year of the year while the forecasts anticipate the possibility of year round operation in 2040 (Young, 1992). Thus, the NSR reliability as a global shipping corridor increases, being another option to congested and even in geopolitically sensitive routes such as Suez Canal and Strait of Malacca (Huebert, 2012). By diversifying that trade on NSR, the world trade security grows – especially that for the delivery of energy resources and raw materials – by decreasing dependence on traditional 'choke' points (Pirrot, 2015).

11. Future Prospect

Over the next few decades, where the summer sea ice is melting, the Northern Sea Route (NSR) has become a major point of geopolitical rivalry, above all, between Russia and the United States. This dynamic is becoming a shape of the future geopolitical

and economic regions with affecting international relations, global trade, and environment (Laruelle, 2014).

But Russia's considerable strategic investments in the NSR – intended to make the route a central artery on global maritime trade flows – illustrate the country's ambition to leverage the route as an alternative to time-honored routes such as the Suez Canal, developing infrastructure and improving navigability as part of the effort (Sergunin & Konyshov, 2015). By doing so, Russia stands to reap economic benefits by way of transit fees and increased trade, while also striving to secure geopolitical advantage (Østreng & et al, 2013). Asserting Russian influence in the Arctic and beyond, this effort would see Russia and China collaborate to build the 'Ice Silk Road' – a pathway for flow of trade between Asia and Europe (Buchanan, 2020).

On the other hand, the United States treats the NSR with caution, basing on the principles of freedom of navigation as well as the principles of ensuring international maritime norms (Huebert, 2010). The United States expresses concerns over Russia's Arctic regulatory and military activity as possible threats to open and collaborative use of international waters (Conley & Melino, 2019), as a result the United States strengthens its Arctic policy, strengthens its military presence and strengthens its alliances with other Arctic nations as a counterbalance to Russia's elevation (Powell & Dodds, 2019). This policy assumed posture not only reflects a general commitment to maintain the existing international order, but also stop one state from becoming a monopoly on upcoming global commons.

But as the NSR becomes more accessible the interplay between these divergent strategies is likely to become more acute. Russia's ability to exploit economic opportunities in the NSR and its military fortification of the Arctic may be seen by the U.S. and her allies as positioning Russia to exert control over Moscow's newest north south maritime corridor.¹⁰ Such perceptions could engender heightened geopolitical tensions that in turn could burden from diplomatic disagreements, military show of force and competing infrastructure initiatives that provide a competing route (Tennberg, 2016).

Other stakeholders, most notably China, are involved in this dynamic. China's largest investments to date in the NSR are also consistent with its larger Belt and Road initiative, which aims to diversify trade routes and secure energy supplies (Laruelle, 2019). This Sino–Russian collaboration in the Arctic is beneficial to both economic interests, but challenge for the US and its allies who see the burgeoning Sino–Russian partnership in the Arctic as an effort to undermine their influence in the region (Willis, 2016)

Finally, environmental concerns exacerbate the ongoing NSR competition ahead. Increased shipping traffic, resource extraction, and military activities are hugely vulnerable to impact the Arctic's fragile ecosystem (Heininen, 2020) and to balance economic ambitions with environmental preservation, it will take robust governance frameworks and international cooperation (Vinogradov & Golitsyn, 2017). But neglect to address these issues can result in ecological degradation, which could in return fuel further geopolitical disputes over responsibility and remediation efforts. (Berkman & Vylegzhanin, 2013)

Solving the NSR rivalry of the future will require a careful balance between national interests and collective responsibilities (Bertelsen, 2020), conducting discussions in a constructive way, enhancing transparency and promoting actions directed toward sustainable development (Greaves, 2018), and ultimately the global community's ability to harmonize the economic objectives with the environmental and geopolitical stability (Pirrot, 2015)

12. Findings:

Based on the US-Russia rivalry over the Northern Sea Route, the study analysis reveals a number of important conclusions on the geopolitical, economic and strategic dimensions of this rivalry. This evidence is useful to understand what consequences the rivalry has for Arctic dominance, global trade, and the rest of the international system.

12.1. The rivalry is defined geopolitically:

The result is that this rivalry over the NSR is grounded up by these nations' respective geopolitical ambitions.

12.1.1. Russia's Arctic Aspirations:

The NSR is viewed by Russia as an essential part of its national sovereignty and world influence. As an element of its Arctic strategy, announced in Arctic Strategy 2035, the NSR is described as a 'national transportation corridor,' and therefore controlled by Russia. It fits in with Moscow's broader aim of becoming the dominant Arctic power.

12.1.2. U.S. Concerns Over Regional Stability:

The dominance by Russia is perceived as a violation of fundamental principles of international law, in particular freedom of navigation. The U.S. stands for an open Arctic and cheek by jowl with other Arctic nations and especially with other Nordic states against Russian influence.

12.1.3. Strategic Competition:

The NSR is both a strategic asset for economic purposes and one that will contribute to global power dynamics for both nations involved. A manifestation of a wider trend of strategic competition between rising and established players in the international arena.

12.1.4. Russia's Strategic Investments Outpace the United States:

Russia's such impressive investments in Arctic infrastructure, with adequate military capabilities and resource development, showcase a proactive approach to Arctic domination.

12.1.5. Infrastructure Development:

Since the world's largest fleet of nuclear icebreakers and port facilities like Sabetta and Murmansk have been modernized, Russia leads the Arctic in infrastructure investments. Together these developments bring the NSR into year round navigation, contributing to realising wider economic and strategic ambitions for Russia.

12.1.6. Military Build-Up:

Russia's rearmament of the Arctic, new construction, and the rekindling of Soviet era bases and weaponry, as well as the carrying out of much grander and more extensive drills than at any time since before the end of the Cold War, all confirm Russia's resolve to protect the [Northern Sea Route] NSR. Its military presence is a deterrent to external intervention and enhances Russia's control of the route.

12.1.7. Energy and Resource Exploitation

: Oil, natural gas and rare minerals in the Arctic are part of Russia's economic strategy. The projects such as Yamal LNG and Arctic LNG 2 show how the NSR enables exporting of resources that increase Russia's economic leverage in world markets.

12.2. The implications are far reaching economically.

Yet the NSR promises potential to forever transform global trade and regional economies, entirely reordering economic calculations not only for Russia but the United States too.

12.2.1. Global Shipping:

Unlike the Suez Canal, the NSR is a shorter and more economical way to deliver goods. This could slash shipping time between Europe and Asia by up to 40 percent, helping to bring costs down for global shippers and increasing trade efficiency.

12.2.2. Russia's Economic Gains:

Transit fees for Russia, amounting to \$1.5 billion annually in 2022, are expected to double by 2030. Also, the NSR provides an export corridor for Arctic energy, strengthening Russia's role as the largest energy source for Europe and Asia.

12.2.3. U.S. Economic Concerns:

Also, the U.S. is struggling to compete with Russia's Arctic energy exports and worries that NSR monopoly poses a threat to the global trade norms. The U.S. pleads for open access in order to protect its own economic interests and those of its allies.

12.2.4. Regional Development:

In Russia's Arctic regions, the NSR has generated economic activity: people began to work, the pace of life intensified. This regional transformation depends on ports such as Sabetta and the logistical hubs along the route.

12.2.5. Strategic Rivalry Shapes Arctic Governance:

The competition for the NSR also reveals the weakness of existing Arctic governance frameworks and growing militarization of the region.

12.2.6. *Lack of Unified Governance:*

The NSR rivalry features a number of strategic and militarized aspects to which institutions such as the Arctic Council are simply not suited to respond. The lack of mandatory legal frameworks for the Arctic has greatly contributed to tensions among the Arctic states.

12.2.7. *Militarization of the Arctic:*

The risk of conflict in the Arctic has sharply increased thanks to the intensified military presence in the region by both Russia and the United States. The region's growing strategic importance was underscored by Russia's deployment of advanced weaponry and the U.S. Navy's Arctic operations.

12.2.8. *Alliance Building*

However, the United States has concentrated on the enhancement of teaming with Arctic states like Canada, Norway, and Denmark to trump Russia. This approach shows the importance of alliances in the articulation of Arctic dynamics.

12.3. Environmental and Operational Challenges

The NSR holds great economic and strategic potential but realizing this potential is not without difficulties. Unpredictable Ice Conditions: Nevertheless, an icebreaker technology is increasingly outmatched by unpredictable weather and ice conditions, resulting in shipping and resource extraction, a researcher in the NSR.

12.3.1. Environmental Risks:

The fragile Arctic ecosystem is also increasingly threatened by increased shipping activity and resource exploitation. They raise the spectre of large oil spills, habitat destruction, and greenhouse gas emissions.

12.3.2. Sanctions and Geopolitics:

But Russian financial reserves have been strained by the sanctions imposed by the West on Russia, and foreign investment in Arctic projects has slowed its development, complicating Russia's ability to fully capitalize on the potential of the NSR.

12.3.3. Infrastructure Gaps:

However, Russia still has to deal with problems with regards to search and rescue and refueling stations as well as port facilities along the NSR.

12.4. The 3 Reasons the NSR Made Russia a Catalyst for Multipolarity

Rivalry in the NSR is also about broader shifts in the global power balance, especially about the rise of a multipolar world.

12.4.1. *Emerging Stakeholders:*

China and South Korea, outside of Arctic nations, increasingly see themselves as involved in Arctic trade and investment and have recognized the NSR's potential. For example, China's 'Polar Silk Road' initiative is an extension of its own Belt and Road strategy – a promising means for China to bolster its relationship with Russia and profitably exploit NSR.

12.4.2. Challenges to U.S. Dominance:

The NSR is a challenge to the long practice of Western powers in trade. A more multipolar international system, characterized by Russia's control over the route and its partnerships with none Western states, is visible.

13. Recommendations:

The increasingly important geopolitical developments around the Northern Sea Route (NSR), balanced and inclusive development of NSR can only be achieved through a comprehensive, collaborative, and sustainable approach consistent with its high environmental responsibilities and its developmental impacts to the world. The following recommendations are proposed to address the multifaceted challenges and opportunities associated with the NSR:

1. Enhance Multilateral Governance Frameworks: to encourage cooperation between Arctic and Non-arctic States existing international institutions such as the Arctic Council must be strengthened. It involves encouraging

discussion on the standards for regulatory, environmental protection and sustainable development of the NSR, so that the NSR is managed in a way that works to the benefit of all stakeholders.

2. Uphold Freedom of Navigation Principles: The NSR must remain an international waterway where global maritime traffic flows freely. It is consistent with the United Nations Convention on the Law of the Sea (UNCLOS), which vested high seas shipping rights in the common interest and stands for freedom of navigation to challenge the notion of any state having a monopoly on this essential route.
3. Develop Comprehensive Environmental Safeguards: Stringent environmental regulations must be implemented to reduce the impact on ecology of increasing shipping and natural resource extraction in the Arctic. These include implementation of measures included in the Polar Code, as well as thorough impact environmental assessments for all activities related to the NSR.
4. Invest in Search and Rescue (SAR) Infrastructure: Having a SAR capability, especially along the NSR is important for maritime safety. It entails setting up properly stocked response centers, joint exercises with training and, ultimately, bringing together what we can to address an emergency in an increased difficulty of the Arctic environment.
5. Promote Indigenous and Local Community Engagement: Decision-making processes related to the NSR should involve Indigenous populations and local communities. It ensures that their rights, their livelihoods, their traditional knowledge is respected, and it is integrated into sustainable development strategies.
6. Facilitate Transparent Data Sharing: The open exchange of navigational, meteorological, and environmental data with NSR users makes the system safer and optimizes operations. Centralized databases that can be pulled by all the stakeholders for informed decision making and collaborative research efforts can then be established.
7. Strengthen International Legal Mechanisms: By clarifying or reinforcing legal frameworks, governing the NSR in terms of jurisdictional claims and regulatory authority, geopolitical tensions can be reduced. Diplomatic negotiations are required to resolve disputes and ambiguities for long term stability.
8. Encourage Sustainable Economic Development: Key is promoting economic activities that comply with environmental standards and serve local communities. This includes backing eco friendly shipping practices, responsible resource extraction and the construction of renewable energy projects in the Arctic.
9. Monitor and Address Geopolitical Developments: It is necessary to continuously assess development of other spheres, like geopolitical shifts: forming and disintegration of alliances, rise and decline of rivalries, acquisition or loss of territories. Confidence building measures and the creation of communications channels will serve to alleviate the tensions surrounding the NSR.
10. Support Scientific Research and Climate Monitoring: Scientific studies to understand the impacts of climate change on the Arctic environment and the NSR navigability require investment. Adaptive management strategies can therefore be informed through collaborative research initiatives and contribute to global climate action initiatives.

14. Conclusion:

Geopolitical competition between Russia and the U.S. over the Northern Sea Route (NSR), a potential transit route to the Arctic, has already become a driving force of focal global trade, energy market and the regional security discussions. Decades of Russian investment in Arctic infrastructure and military capabilities have cemented its control of the NSR and it has become a key player in

a region where the Arctic is undergoing rapid changes. France and Russia have prioritized development of the NSR mainly through investment in infrastructure, including an expansion of its icebreaker fleet and modernisation of Arctic ports. These efforts have boosted shipping traffic and resource extraction, thus strengthening Russia's economic presence in the region. Russia uses the NSR as a Maritime route shorter than the Maritime one to Europe than to Asia that reduces shipping time and costs to attract the international trade. Concerns for the U.S. about Russia's control over access to the NSR relate to freedom of navigation and the opportunity for Russia to use the route for geopolitical ends. Keeping sea lanes open and secure, as they remain, is critical to the U.S. and it has dramatically increased its presence in the Arctic, including through military deployment and cooperation with allies. But the U.S. finds it difficult to equal Russia's investments in Arctic infrastructure and operational capabilities. Beyond its economic implications for the NSR, the competition over it has broader geopolitical implications, which shape the strategic calculus of other Arctic and non Arctic states. The strategic realignments which are currently taking place in the region have been presented by Russia's partnership with China cooperation on the "Ice Silk Road." However, Russian militarization of the Arctic with deployment of advanced missile systems and the reopening of Soviet era bases has led to security concerns among Arctic nations and NATO members. Despite that, the NSR has environmental and operational challenges, with harsh weather conditions, limited infrastructure and ecological risks. Increased shipping and resource exploitation has placed the fragile Arctic ecosystem in jeopardy, thereby necessitating strict environmental safeguards. The NSR is operationally problematic, because of its unpredictability in terms of ice conditions, and because it can only be used regularly and safely with specialized vessels. The NSR is a economic corridor with geopolitical competition. Russia's attempts to develop and control the route have added to its economic and strategic weight in the Arctic, and the United States also wants to guarantee the NSR will be open and secure international waterway. Closely linked to the evolving dynamics of the NSR are the geopolitical changes in the Arctic, which, in turn, will continue to shape the NSR itself with its attendant geopolitical, environmental and societal implications that underscore the need for, among other things, collaborative efforts to address environmental concerns and augment regional stability.

Bibliography

- Humpert, M., & Raspotnik, A. (2012, October 11). *The future of Arctic shipping*. The Arctic Institute. <https://www.thearcticinstitute.org/future-arctic-shipping/>
- Laruelle, M., & Peyrouse, S. (2020). *Russia's Arctic strategies and the future of the Far North*. Routledge. <https://doi.org/10.4324/9781315700939>
- Lackenbauer, P. W. (2020). Russia and the Northern Sea Route: Historical, political, and strategic contexts. *Arctic Yearbook*, 96–111. <https://arcticyearbook.com/arctic-yearbook/2020>
- Pincus, R., & Berbrick, W. A. (2022). Three-way power dynamics in the Arctic. *Naval War College Review*, 75(3), 17–34
- Ebinger, C. K., & Zambetakis, E. (2009). The geopolitics of Arctic melt. *International Affairs*, 85(6), 1215–1232. https://www.brookings.edu/wp-content/uploads/2016/06/11_arctic_melt_ebinger_zambetak_is.pdf
- Byers, M. (2013). *International law and the Arctic*. Cambridge University Press. <https://www.ejil.org/pdfs/25/1/2467.pdf>
- Dodds, K., & Nuttall, M. (2019). *The Arctic: What everyone needs to know*. Oxford University Press. <https://doi.org/10.1093/wentk/9780190649814.001.0001>
- Sergunin, A., & Konyshchev, V. (2015). *Russia in the Arctic: Hard or soft power?* ibidem Press.

<https://cup.columbia.edu/book/russia-in-the-arctic/9783838207834>

- Østreng, W., Eger, K. M., Fløistad, B., Jørgensen-Dahl, A., Lothe, L., Mejlænder-Larsen, M., & Wergeland, T. (2013). The northeast, northwest and transpolar passages in comparison. In *Shipping in Arctic waters* (pp. 299–353). Springer. https://doi.org/10.1007/978-3-642-16790-4_8
- Østhagen, A. (2019, April). *The new geopolitics of the Arctic: Russia, China and the EU* [Policy Brief]. <https://euagenda.eu/upload/publications/untitled-212267-ea.pdf>
- Conley, H. A., & Melino, M. (2019). *The Arctic and U.S. national security*. Center for Strategic and International Studies.
- Huebert, R. (2013). The U.S. Navy and the Arctic: Challenges and opportunities. *Naval War College Review*, 66(2), 51–68.
- Moe, A., & Brigham, L. W. (2017). Arctic shipping: Trends and future perspectives. *Polar Geography*, 40(3), 149–162. <https://doi.org/10.1080/1088937X.2017.1327066>
- Waltz, K. N. (1979). *Theory of international politics*. Addison-Wesley.
- Keohane, R. O., & Nye, J. S. (2012). *Power and interdependence* (4th ed.). Pearson.
- Young, O. R. (2020). *Arctic governance: Addressing the challenges of climate change*. Cambridge University Press.
- Lackenbauer, P. W., Lajeunesse, A., Manicom, J., & Lasserre, F. (2018). *China's Arctic ambitions and what they mean for Canada* (Beyond Boundaries: Canadian Defence and Strategic Studies Series, No. 8). University of Calgary Press. <https://doi.org/10.11575/PRISM/34634>
- Sacks, B. J. (2021). The Arctic in international relations: Strategic and economic opportunities. *Journal of Strategic Studies*, 44(3), 314
- Mearsheimer, J. J. (2001). *The tragedy of great power politics*. New York: W. W. Norton & Company. <https://samuelbhfaure.com/wp-content/uploads/2015/10/s2-mearsheimer-2001.pdf>
- Young, O. R. (1992). *Arctic politics: Conflict and cooperation in the circumpolar North*. Dartmouth College Press. <https://collections.dartmouth.edu/ebooks/young-arctic-1992.html>
- Buchanan, E. (2021). Arctic strategy in a global context. *Strategic Analysis*, 45(3), 283–296.
- Parzival, P. W. (2019). Freedom of navigation in the Arctic: U.S. policy and legal challenges. *Naval Law Review*, 62(1), 45
- Zysk, K. (2005). Russia's Arctic strategy: Ambitions and constraints. *Journal of Strategic Studies*, 28(4–5), 103–125.
- United Nations Convention on the Law of the Sea, Part XII, Article 234. https://www.un.org/depts/los/convention_agreements/texts/unclos/part12.htm
- Arctic Council. (2023). *Arctic governance and regulation*. Arctic Council Secretariat.
- Smieszek, M. (2018). The Polar Code and Arctic shipping governance: The role of coastal states. *Polar Geography*, 41(4), 301–318.
- Brigham, L. W. (2010). The Northern Sea Route: Regional development and international shipping. *Maritime Policy & Management*, 37(6), 517–530.
- Koivurova, T. (2012). The Arctic Council and its role in governance of the Arctic shipping routes. *Marine Policy*, 36(5), 1221–1228
- Huebert, R. (2010). United States Arctic policy: The freedom of the seas versus Russian sovereignty claims. *Naval War College Review*, 63(2), 45
- Powell, R., & Dodds, K. (2019). A strategic overview of the Arctic region. *Geopolitics*, 24(1), 14.
- Balton, D. (2021). The Arctic's role in shaping maritime law. *The American Journal of International Law*, 115(1), 56–63. <https://doi.org/10.1017/ajil.2021.2>

- Eliza Buchanan, E. (2020, September 25). Russia and China in the Arctic: assumptions and realities. *The Strategist*. <https://www.aspistrategist.org.au/russia-and-china-in-the-arctic-assumptions-and-realities/>
- Berkman, P. A., & Vylegzhanin, A. N. (Eds.). (2013). *Environmental security in the Arctic Ocean*. Springer. <https://doi.org/10.1007/978-94-007-4713-5>
- Zysk, K. (2011). Military aspects of Russia's Arctic policy: Hard power and natural resources. In *Arctic strategies and policies*. <https://doi.org/10.1017/CBO9780511994784.007>
- Piskunov, A. (2021). The role of the Northern Fleet in Arctic security. *Journal of Military Strategy*, 12(4), 94.
- Emmerson, C. (2010). *The future history of the Arctic*. PublicAffairs
- Willis, M. (2016). Arctic shipping: Legal, environmental, and strategic implications. *Marine Policy*, 72, 221
- Heininen, L. (2020). *Arctic strategies and policies: Navigating between cooperation and competition*. Springer.
- Huebert, R., & Lackenbauer, P. W. (2016). Premier partners: Canada, the United States, and Arctic security. In *Governing the North American Arctic* (pp. 143–162). https://doi.org/10.1057/9781137493910_7
- Laruelle, M. (2019). China's Belt and Road Initiative and the Arctic: Strategic ambitions and regional implications. *The Polar Journal*, 9(1), 40
- Exner-Pirot, H. (2015). The role of small nations in Arctic governance. *Arctic Review on Law and Politics*, 6(2), 88
- Bertelsen, R. G. (2020). Arctic research and strategic power projection. *Polar Science*, 14(2), 72.
- Greaves, W. (2018). The politics of Arctic sovereignty: Security and environment in the circumpolar North. *International Journal*, 73(4), 519.
- Byers, M. (2016). The Northwest Passage and the Northern Sea Route: Strategic, legal, and environmental challenges. *Ocean Development & International Law*, 47(3), 288.
- Gunnarsson, B. (2015). Economic opportunities along the NSR: Prospects and challenges. *Polar Geography*, 38(3), 155
- Laruelle, M. (2014). *Russia's Arctic strategies and the future of the Far North* (1st ed.). Routledge. <https://www.routledge.com/Russias-Arctic-Strategies-and-the-Future-of-the-Far-North/Laruelle/p/book/9780765635013>
- Tennberg, M. (2016). Climate change and Arctic governance: The role of non-Arctic states. *Global Environmental Politics*, 16(2), 42\
- Lackenbauer, P. W. (2018). *Polar partners: Canada and the United States in the Arctic*. Wilfrid Laurier University Press.
- Koivurova, T. (2013). Environmental regulation and the Northern Sea Route. *Marine Policy*, 37(1), 118–125.
- Bykov, A. (2018). Russia's military presence in the Arctic: Challenges and opportunities. *Journal of Eurasian Studies*, 9(2), 105.
- Vinogradov, S., & Golitsyn, V. (2017). International governance of the Arctic: Challenges of legal frameworks. *The Polar Journal*, 10(3), 75
- Heininen, L. (2020). Overview of Arctic policies and strategies. *Arktika i Sever (Arctic and North)*, (39), 195–217. <https://doi.org/10.37482/issn2221-2698.2020.39.195>
- Huebert, R. (2012). The security of the Arctic: Geopolitical issues and national interests. *Canadian Defence Quarterly*, 47(2), 35.
- Ebinger, C. K., & Zambetakis, E. (2009). The geopolitics of Arctic melt. *International Affairs*, 85(6), 1215–1232. https://www.brookings.edu/wp-content/uploads/2016/06/11_arctic_melt_ebinger_zambetakis.pdf