

The rush to the Arctic: Geopolitical linkages and challenges for Indo-Pacific regional stability

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Abstract

This study aims to evaluate how great power competition in the Arctic, driven by new maritime routes emerging from melting sea ice due to climate change, significantly reduces shipping distances between Europe and Asia and impacts the dynamics of the Indo-Pacific region. This development has intensified strategic competition among major powers, especially China, the United States, and Russia. According to the realism theory, these countries pursue national interests by seeking to establish influence over the Arctic route. This study uses a qualitative methodology based on a comprehensive literature review, analyzing secondary data from academic publications, policy documents, and expert reports. The findings are synthesized and presented through descriptive narrative analysis to provide insights into the complex interactions between Arctic developments and Indo-Pacific regional dynamics. This study reveals that great power competition centered on the Arctic has substantial spillover impacts in the Indo-Pacific region, especially on regional environmental sustainability and geopolitical stability, particularly in the Malacca Strait region. A major limitation of this study lies in the evolving nature of great power competition in the Pacific Ocean, which poses challenges in accessing up-to-date information and analyzing fast-changing dynamics. The study concludes that the interconnectedness between the Arctic and the Indo-Pacific requires a nuanced understanding of the evolving geopolitical landscape. The findings have implications for regional security, economic cooperation, and environmental sustainability in both regions.

Keywords: *Arctic, climate change, great power competition, and Indo-Pacific*

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1. Introduction

The world has entered the Anthropocene era. Anthropocene, from the Greek "*anthropos*" which means human, and "*kanios*" which means new, is a new geological age in which human actions have a far-reaching and dominant impact on Earth's evolution. At this moment, humanity has begun to exert a profound influence on Earth's processes, ushering in the Anthropocene period of geological record. Around the past few decades, people all around the globe have felt the effects of global warming (Piotrowski et al., 2024) and the majority of the world's population has felt the pinch of climate change, especially as a result of rising sea levels (National Oceanic and Atmospheric Administration, 2024). The melting of polar ice caps, for instance, would cause sea levels to rise, forcing millions of people to abandon their homes (Only One, 2023).

The Arctic region has also experienced historic changes that have profound implications for international relations, maritime transport potential, and regional security. For instance, the opening of the Northern Sea Route (NSR) and the Northwest Passage has opened up new opportunities and challenges in maritime transport; this shift has opened up new opportunities and challenges for maritime trade. Shorter distances between Europe and Asia, less fuel usage, reduced transportation costs, and fewer pollutants are just a few of the many ways these routes help international trade (Brauch, 2021; Johansen, 2018; National Snow and Ice Data Center, 2023). The impacts of climate change create a complex scenario where the balance of economic opportunities with environmental responsibilities and infrastructure resilience planning. Meanwhile, the shipping data shows that the growing cargo transport via the Northern Sea Route increased approximately eightfold between 2014 and 2020. This dramatic growth indicates a potential shift in global maritime transport patterns, thereby increasing the strategic significance of the Arctic region. However, new shipping routes offer economic benefits, but rising sea levels threaten infrastructure and the lives of coastal communities throughout the Arctic and Indo-Pacific (Bekkers et al., 2019; Marusin et al., 2022).

The competition among Russia, China, and the United States over the Arctic passage has intensified and affected the international balance. Economic interests, geostrategic considerations, and environmental concerns are the driving forces behind this competition. Competition among these powers has increased military presence, financial investment, and diplomatic initiatives in the Arctic region. It is crucial to tackle urgent issues of environmental

sustainability and security in the Indo-Pacific region. Immediate action is needed to address these interrelated challenges, particularly how Arctic changes impact maritime security and sustainability in the area (Sharapov, 2023; Sharma, 2021). Hence, this study aims to evaluate the maritime security, economic impacts, and environmental considerations in the Arctic, driven by new maritime routes emerging from melting sea ice due to climate change. It focuses on great power competition in the Arctic and its linkage to Indo-Pacific regional stability.

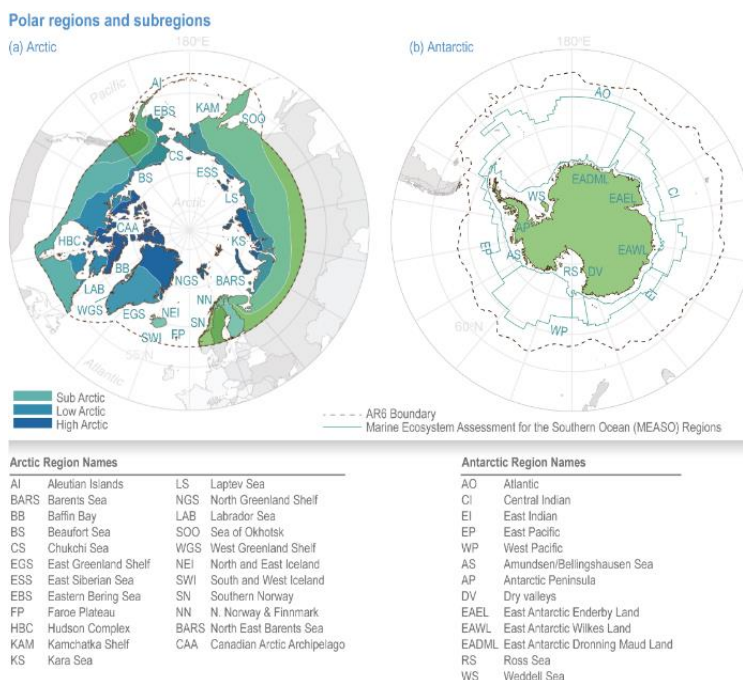
2. Literature review

2.1. Climate Change and Arctic Transformation

Increased global temperatures caused by human actions like burning fossil fuels, cutting down forests, and running factories are all part of what is known as climate change. Sea levels rise due to altered weather patterns characterized by an increase in warm weather, and short colds were impacted to accelerate the ice melt, causing sea levels to rise. Oceans significantly influence climate change as the heat generated by transportation causes water to store this heat for extended periods. These changes also accelerate ice melting and raise global sea levels. Polar regions and their subregions are particularly affected (Meredith et al., 2019). The consequences of climate change create a loop that ultimately alters global conditions, increasing risks and threats to humanity.

Figure 1

Polar regions in the Arctic and Antarctic areas



Source: Constable et al. (2022)

As shown in figure 1, the Arctic region is surrounded by several countries and two oceans. Arctic regions include Russia, Alaska, Finland, Norway, Canada, Greenland, Sweden, and Iceland. There are approximately four million inhabitants in the Arctic impacted by climate change. For instance, there has been an accelerated loss of sea ice cover since 2001, and it is estimated that the region would become sea ice-free before 2050. Another climate impact is the increasing frequency of extreme heat events since 1979, which affects global stability (Constable et al., 2022). The estimated monthly decrease in sea ice from 1979 to 2020 has contributed to increasing global warming. The Arctic has experienced a temperature rise of 2°C, leading to the rapid melting of sea ice and altering global weather patterns. The increase in temperature in the southwestern United States is evident, with a rise of approximately 37.8°C, along with heavy rains and floods. Japan and other regions in the Northern Hemisphere have also experienced similar extreme weather events. The adverse effects are felt by Indigenous people in the Arctic and globally (Strawa et al., 2020).

The example of non-military threat is the melting of ice. The melting ice in the Arctic has impacted the sea. According to Mahan (1890), *“the first and most obvious light in which the sea presents itself from the political and social point of view is that of a great highway, or better, perhaps, of a wide common, over which men may pass in all directions, but on which some well-worn paths show that controlling reasons have led them to choose certain lines of travel rather than others. These lines of travel are called trade routes, and the reasons which have determined them are to be sought in the word's history.”* It can be understood that the sea connects humans. New opportunities are emerging in the Arctic as a result of climate change. The Atlantic and Pacific oceans are connected via the Northwest Passage that is located via the northern America and the Canadian Arctic islands. One of the most expedited shipping routes connecting the Pacific and western Eurasia is the Northeast Passage, which passes through Russia. The Transpolar Sea Route (TSR), also known as the "Ice Silk Road," is a new alternative shipping route that can help reduce traffic on the Suez Canal and Panama Canal. However, challenges may arise due to seasonal conditions (Poo et al., 2024).

The new trade can also change the geopolitical situation in the Arctic and Indo-Pacific regions. As new shipping routes open up, geopolitical competition among major powers intensifies. For instance, the potential access to the transpolar sea route could disrupt traditional trade routes, impacting great power competitions in the Indo-Pacific. Additionally, climate

change-induced changes in ocean currents and weather patterns could lead to more frequent and severe natural disasters, affecting the region's coastal cities and island nations.

2.2. The Indo-Pacific as an Arena of Great Power Competition

Within the concepts of realism theory, great powers competition is a natural and inevitable phenomenon. Classical realism, pioneered by figures such as Thucydides and Hans Morgenthau, argued that nation-states play a central role in world politics and continuously aim to increase their influence (Contributeurs de Baripedia, 2024). Currently, the United States-Russia-China, as superpowers, would naturally compete to pursue their strategic interests (Niazi, 2024). Military preparation, economic animosity, and ideological rivalry are all manifestations of this competition. The Indo-Pacific is a crucial arena for this great power competition. The region between the Indian and Pacific Oceans is known as the Indo-Pacific, encompassing extensive territory, crucial trade routes, and valuable resources (Niazi, 2024). The term was first used in 2007 by Japan's Prime Minister Shinzo Abe. The Free and Open Indo-Pacific (FOIP) concept aims at political, para-military, and economic cooperation, especially in the Pacific Ocean region (Blinken, 2021). The region has become a flashpoint between Chinese and American interests (Enfu & Jing, 2024). For example, forming multilateral institutions serves as a facility for cooperation between states. Japan, through its FOIP, aims to counterbalance China's Belt and Road Initiative (BRI) (Owen, 2022; Park, 2023). Therefore, the Indo-Pacific still has a role and influence in the future global power struggle (Gaskarth, 2022). This has become a hotspot for great power competition (Riddervold, 2023). Countries in the region, most of which are middle powers, have the right to cooperate for their national interests, for example, in defense and security. An example is the cooperation between Australia, Japan, Korea, the Philippines, and Thailand, which benefits from defense cooperation with the United States. Cambodia is a country that is sided with China. However, countries such as Vietnam, Indonesia, Singapore, and Malaysia do not officially side with any great power (Christie et al., 2023).

The Regional Comprehensive Economic Partnership (RCEP) consists of 15 countries in the Asia-Pacific region, including Australia, China, Japan, New Zealand, and South Korea, with a total of about 30 percent of the global GDP a collaboration between great power countries in the Arctic and Indo-Pacific regions through various Cooperations (McCarthy, 2020). For example, China cooperated through the Polar Silk Road to advance Arctic

cooperation (Lanteigne, 2021). China has been able to participate more actively in Arctic governance and international collaboration since 2013 because of its status as a permanent observer of the Arctic Council (Chang & Khan, 2021). In addition, Sino-Russian cooperation is developing a strategic partnership, especially in energy projects and the development of the Northern Sea Route (Biedermann, 2022). China is carrying out cooperative projects with Nordic countries in infrastructure and technology. Even though China is not directly located in the Arctic Ocean region, its influence is perceived (Yaxin, 2020).

The U.S. has collaborated with regions in the Indo-Pacific. Japan and India are pivotal partners of the United States in shaping the narrative and countering challenges from the rise of China's influence (Turker, 2024). Additionally, the United States engages in economic cooperation to enhance trade facilitation and promote infrastructure development (Rahman et al., 2020). The United States has strengthened security collaborations by joining military exercises and arms purchases, especially in Southeast Asia (Rogozhina & Rogozhin, 2024). The Russia cooperation in the “Far East” is carried out by re-engaging with Southeast Asian countries through strengthening relations and economic cooperation (Chen, 2021). Russia is strengthening ties with China and India, participating in the Belt and Road Initiative, and establishing free trade zones in Asia, thereby increasing its influence in the Indo-Pacific region (Semenov, 2021). Russia's presence in the Indo-Pacific could counter US-China tensions, fostering competition among great powers to collaborate with countries in the Indo-Pacific and Arctic regions.

2.3. Theoretical Framework

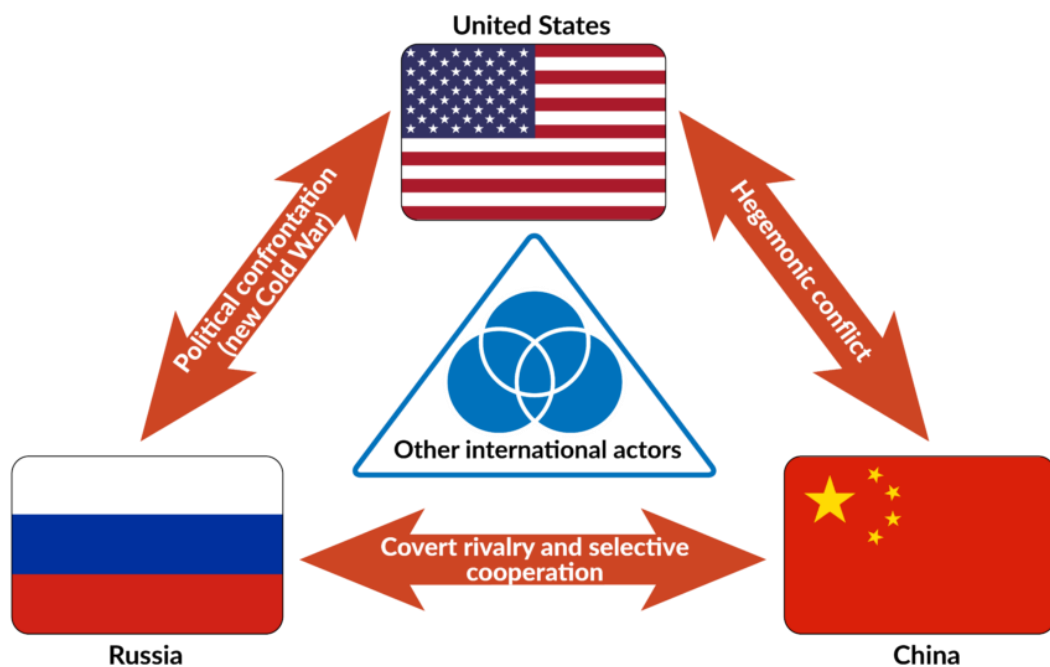
Environmental change is a non-military threat that impacts various aspects of life, including international relations. This study employs an international relations theory approach to understand the link between international tensions and the Indo-Pacific region. The international relations theories utilized are realism and liberalism. Realism is employed because every state or group has its interests in the international arena, making conflict an inevitable form of interaction. Liberalism is used because everyone, including states, can collaborate and cooperate to achieve mutually beneficial relationships (Burchill et al., 2022).

Understanding great power competitions from the perspective of realism theory. Realism theory emphasizes the perspective of the security dilemma. State actions are based on regional security interests, leading to potential tensions and even competition between states

(Zhang, 2024). Not only has climate change caused a shift in the world order, but also the transition of the United States from unipolarity to multipolarity. This shift has resulted in a complex issue. The United States, using an "ends-ways-means" approach to achieve its national goals, focuses on deterrence through the use of advanced technology. However, there are old rivals from the Cold War, such as Russia, and rising powers like China. This has resulted in a tripolar competition (Paul et al., 2004; Wirtz & Larsen, 2024).

Figure 2

Great power competition



Source: Koziej (2020)

The United States was dominated as a global hegemonic power during the twentieth century. However, since the 21st century, there has been a tremendous shift in the global power dynamic. Figure 2 shows that at present, the three mainstays of global domination are the US, Russia, and China. With their respective national interests, these three significant countries compete with each other and influence the global order (Koziej, 2020).

First, ever since the Cold War ended, tensions between the countries were dynamism. When the Soviet Union was at the height of its Cold War supremacy, the United States remained steadfast in its support for North Atlantic Treaty Organization (NATO) as an alliance

especially in military aspect. However, relations between the Washington (United States) and Moscow (Russia) were improved for a time. The two countries competed in science and technology. Although there was cooperation, such as scientific collaboration between 1995 and 2014, with various challenges, especially in terms of interpersonal factors (language and cultural differences) and geopolitical conditions, the political tensions between the two countries since 2014 have renewed tensions. In 2021, there were differences in the U.S. and Russian conceptions of strategic stability (Dezhina & Wood, 2022). Indirectly, the status quo of two states was changed into resurfaced tensions (Bidgood, 2023).

Second, China and Russia ties, colloquially known as the Sino-Russian partnership, have grown closer over the years. Collaboration between these two non-Western groups has shaped international order. After global economic crisis in 2008-2009 the Sino-Russian started working together on security, arms trade, and regular joint exercises began. The Crimean crisis in 2014 and the conflict with the West was created the closer relations of Moscow and Beijing. The two countries have begun cooperating to develop the Arctic region, especially in Russian territory. The two countries are collaborating to align their strategies, precisely their anti-US ideology, to achieve common interests. Both nations have their motives for opposing the United States. Russia, with its long-standing nationalist claims, and China, aiming to enhance its global economic power, collectively threaten U.S. influence in Asia (Bossuyt & Kaczmariski, 2021; Pisciotta, 2023).

The ties between the U.S. and China have been strained due to economic animosity and a desire for influence in Asia. U.S. officials have expressed concern over China's fast economic development and technical achievements. Previously, the U.S.-China relationship was relatively close and mutually beneficial, particularly regarding supply chains and cost-efficient production, especially in the field of a technological powerhouse in Asia. This dynamic contributed to the establishment of numerous factories and technologies in China. However, the rising China economy and influence has caused the United States to face decoupling from China. In recent years, the Trump and Biden administrations have emphasized the importance of reducing dependence on Chinese production and supply chains. The impact is a challenge for both sides, as the U.S. has lost the main largest supply chain (Zhang, 2023). Despite this, China can survive thanks to its self-sufficient supply chain, government policies, and close alliance with Russia.

From a realist perspective, the presence of these three countries in the Arctic is a form of state existence to achieve their respective gains. America and Russia have direct interests in regional defense and influence in the Arctic oceans. China has direct access to the Pacific Ocean, which is also connected to the Arctic Ocean. The three countries have interests in the economy and transportation in the Arctic region and also the Indo-Pacific (Fravel et al., 2022; Suslov & Kashin, 2022). As the Arctic ice cap melts, new possibilities arise, and big powers vie for supremacy.

3. Methodology

This study investigated the complex interplay between great power competition in the Arctic and its potential ramifications for the Indo-Pacific region. We employed a qualitative research approach and drew upon a comprehensive review of secondary data from scholarly journals, books, and articles.

The research process involved data collection, analysis, and interpretation. We conducted a comprehensive database search to systematically gather relevant information using keywords such as Arctic, climate change, great power competition, and Indo-Pacific. Data analysis focused on identified patterns, trends, and key factors that shape excellent power competition in the Arctic and its subsequent impact on the Indo-Pacific. Data sources were carefully chosen from Google Scholar, JSTOR, Academia.edu, Taylor & Francis, and Scopus.com based on their relevance to the research topic, credibility, and publication date. The data was analyzed using understanding from scientific journals obtained from keywords, and researchers conducted discussions to obtain rich data and results (Bungin, 2022).

The findings are synthesized and presented through descriptive narrative analysis to provide insights into the complex interactions between Arctic developments and Indo-Pacific regional dynamics. The introductory section provided a broad overview of the relationship between a new open passage in the Arctic and great power competition in these regions. The literature review delved deeper into the implications of climate change on the Arctic. It elaborated on the applicability of theoretical realism frameworks to understand great powers' underlying motivations and strategies.

The findings and discussion section provided a detailed analysis of the influence of U.S., China, and Russia competition in the Arctic on the Indo-Pacific region. This analysis examines geopolitical, economic, security considerations, and environmental impacts. Finally,

the concluding section summarizes the study's key findings, discuss their implications for future research, and acknowledge the limitations inherent in the research design and methodology. By conducting this research, we aim to shed light on the evolving geopolitical landscape in the Arctic and its potential consequences for the Indo-Pacific regions.

4. Findings and Discussion

4.1. Great Power Competition in the Arctic

The Arctic's strategic position determines its economic potential. New passage due to the melting of sea ice in the Arctic Sea predominantly occurs in the northern parts of the Beaufort Sea, the East Siberian Sea, the Canadian Archipelago, and the Northwest Passage (NWP). The implication in the NSR and NWP is due to the interconnectedness of the Atlantic and Pacific Oceans. The benefits include reduced shipping time and fuel consumption from Europe to Asia and vice versa (Gao & Erokhin, 2020; Johansen, 2018). It has led to new dilemmas and significantly increased tensions between the great powers.

Great Powers like Russia, China, and the U.S. influence the Arctic area. China aspires to increase its influence via long-term programs through the role of regional governance (the Arctic Council) and activities in the region. According to the China's White Paper 2018, China was joint force with Russia to realization their Polar Silk Road (Lanteigne, 2021). The application is the use of China Ocean Shipping Company (COSCO) vessels operating during the summer through the Northern Sea Route (NSR) (Wang & Ma, 2024; Zeng et al., 2020; Zhou et al., 2024).

On the other hand, Arctic is a vital region for Russia's security and economy. The Arctic region also stores much Russian military equipment. In 2023, Russia's Foreign Policy Concept designated the Arctic as its second priority region after its near abroad. In addition, Russia is an ally of China, especially in developing instruments of national power (Conley et al., 2020; Suslov & Kashin, 2022). The NSR route is in Russia's territory, a significant trade route for trans-Arctic transport. In addition, the country also completed the Yamal LNG oil project and developed resource projects along the Siberian coast. Novatek established a shipping company for transport by cooperating with COSCO from China and Sovcomflot from Russia (Moe, 2020).

Meanwhile, in 2019 the United States Department of Defense (DoD) released an Arctic strategy document and conducted polar icebreaker operations. However, the cracked ice areas

are directly exposed to sunlight, leading to increased water temperatures and sea ice melts faster in the Arctic (National Snow and Ice Data Center, 2023). In 2024, the DoD issued the update of the Arctic Strategy with the aim to protect the United States, especially Alaska, and the sovereign territory of NATO allies, particularly military bases (Conley et al., 2020; Suslov & Kashin, 2022; U.S. Department of Defense, 2024). Implementation of the strategy increased its military capabilities in the Alaskan region. These efforts were made as a form of protection from territorial disputes from the influence of China-Russia in the Arctic region (Teeple, 2021). Increasing security infrastructure in the Arctic is due to its potential as a new transportation route that can shorten shipping time through the Arctic Sea and the potential for exploring natural resources (oil, gas, and minerals) (Sharapov, 2023). The presence of Chinese and Russian military forces in the Arctic poses challenges for the U.S. and NATO allies (Østhagen & Schofield, 2021; Strategic Studies Institute, 2020).

This tension directly heightens conflicts among Indo-Pacific countries, creating complex security challenges in international relations (Bekkers et al., 2019). The indirect impact is that increased activity (military, economic, and development) accelerates ice melting in the Arctic, directly affecting the global sea level balance. The impact is the threat of cycles and rising sea levels in the Indo-Pacific region (Swapna et al., 2020; Wang & Ma, 2024).

4.2. Impact of Race to The Arctic to Indo-Pacific Regional Countries

The melting Arctic ice has opened new shipping routes, reshaping trade between Asia and Europe and reducing congestion in the Suez Canal (Johansen, 2018; Zeng et al., 2020). On the other hand, great power rivalry-related security concerns and militarization in the Arctic could escalate tensions in the Indo-Pacific (Lavengood, 2021). The Indo-Pacific, a global trade and commerce hub, is increasingly affected by strategic competition among major powers, particularly the intensifying economic tensions between the United States and China. To counter China's influence, the United States is strengthening alliances with India, focusing on both economic cooperation and defense. The Arctic's untapped resources could shift the focus of major powers and cause significant geopolitical changes. For instance, the United States is strengthening alliances with Indo-Pacific nations to counter China's and Russia's influence. Examples include AUKUS, which stands for Australia, UK, and U.S., and JAPHUS, which stands for Japan, Philippines, and U.S., which aims to enhance security agreements among these nations. The changing dynamics in the Arctic have captured the attention of Asian

countries, prompting them to recognize the significant impact these developments may have on their economies and environments (Ahmed, 2022; De Castro, 2019; Sharma, 2021; Waseem, 2023).

Table 1

The evolving timeline of Asia-Arctic Cooperation

Year	Country	Partner country	Agreement/Project
2008		Russia	Construction of icebreakers for Lukoil
2013	Singapore	United States	Construction of an Arctic offshore drilling rig
2014	Philippines	Russia (with Chinese involvement)	Contract with Novatek: supply critical process modules for the Yamal LNG project
	Vietnam		Oil and gas exploration in the Pechora Sea
2015	Singapore		Sold three mini-icebreakers to Lukoil
	Vietnam		Development of the Severo-Purovskoye field
2017	South Korea		Hyundai Glovis shipped cargo between Asia and Europe via the NSR
2018	Singapore		Partnership with Novatek: collaborative work on the Arctic LNG 2 project
2019	Japan	Russia	Novatek's Arctic LNG 2 project: Mitsui & Co. and Mitsubishi Corporation acquired ten percent equity stake
2021	South Korea		Joint studies on intensifying the operation of the Arctic route; considering commercial use of the NSR
			Joint development of the Northern Sea Route
Ongoing	China		Investments in Russian Arctic energy projects (e.g., Yamal LNG)
Not specified	India		Cooperation on Arctic issues, particularly in the field of energy

Source: Heng & Freymann (2023) and Krasnozhenova et al. (2021)

Table 1 demonstrates significant growth in Asia-Arctic cooperation, particularly in energy and transportation. Asian countries, including Singapore, South Korea, the Philippines, Vietnam, Japan, India, and China, have actively engaged in Arctic projects driven by energy needs, new shipping routes, and geopolitical considerations. Since the early 2000s, Asian involvement in Arctic affairs has grown significantly, particularly in the energy sector. Singapore has demonstrated active engagement, from constructing icebreakers for Russia to partnering with the U.S. in Arctic offshore drilling projects. South Korea has also strategically

positioned itself, utilizing the NSR for cargo shipping and conducting joint studies with Russia to explore its commercial potential further.

The Philippines has participated in the Russian-led Yamal LNG project, while Vietnam has engaged in oil and gas exploration in the Pechora Sea. Japan has shown significant interest by investing in Russian Arctic energy projects, including acquiring a stake in the Arctic LNG 2 project. Although specific timelines for these projects are not currently available, India has expressed a strong desire to enhance its energy security through cooperation with Russia in the Arctic. This partnership recognizes the region's vast hydrocarbon reserves and the potential of the Northern Sea Route for importing oil. Additionally, China has become a key player with a strategic focus on the Arctic, actively participating in the joint development of the Northern Sea Route and making substantial investments in Russian Arctic energy projects.

Singapore has emerged as a major actor in Arctic cooperation. India's involvement in partnering with Russia in the Arctic primarily focuses on energy, scientific research, and economic interests. Asian countries like Singapore, South Korea, the Philippines, Vietnam, Japan, India, and China have formed numerous agreements and cooperative projects with Arctic states, primarily Russia. Since the early 2000s, Southeast Asian nations have actively pursued Arctic energy projects (Heng & Freymann, 2023; Krasnozhenova et al., 2021).

In terms of economics, opening new trade routes and resource exploitation can alter dynamics, particularly in maritime routes in the Pacific. The Malacca Straits, located between Indonesia, Singapore, and Malaysia, had over 84,400 ship transits in 2017, highlighting substantial maritime traffic in the Pacific Ocean (Li et al., 2023; Li et al., 2022; Placek, 2022). The Strait of Malacca remains a critical maritime route connecting major economies (MINDEF Singapore, 2015). Globalization has heightened the importance of this passage, making it vital for regional security and trade. It connects the Indian Ocean to the South China Sea, facilitating commerce between the Middle East, China, Japan, South Korea, and Western markets (Greco, 2022). This makes it crucial for global trade and energy transportation. Increasing tensions among the United States, China, and Russia could affect the Strait of Malacca.

U.S. Navy's dominance in the Indo-Pacific, particularly around the Malacca Strait, threatens China (Paszak, 2021). A potential U.S. naval blockade could severely disrupt China's energy supplies and trade routes, leaving China vulnerable. In response, China has modernized its military, leading to an arms race in Asia. This military buildup is a countermeasure to the U.S.'s strategic advantage. China is developing 21st Century maritime silk road and increasing

naval expansion (Li, 2017; Shaofeng, 2010). Meanwhile, Russia's direct involvement in the Malacca Strait is limited. Its strategic alignment with China against the U.S. influences the broader geopolitical dynamics in the region (Dikarev & Lukin, 2021; Lukin, 2021).

The U.S. has bolstered its alliances through initiatives like AUKUS and the Quad to counterbalance China's maritime ambitions (Suharto et al., 2024). This has increased strategic competition and heightened regional tensions (Puri, 2022). Specifically, the Quad, which stands for Quadrilateral Security Dialogue and includes members of the United States, India, Japan, and Australia, has a strategic interest in the Malacca Strait. The Quad countries are focused on ensuring freedom of navigation and countering threats that could disrupt the flow of goods and energy through this vital passage.

ASEAN, or the Association of Southeast Asian Nations, includes countries like Singapore, Malaysia, and Indonesia, which may be directly affected by shifting geopolitics in the Indo-Pacific region (Enodo Global, 2018; Titovich & Atnashev, 2021). The three countries have different opinions regarding the influence of the U.S. and China on the Malacca region. Malaysia does not warmly welcome the Chinese policy "One Road, One Belt" which is considered a threat to sovereignty and social values. Singapore considers China's influence a threat, especially regarding entrepreneurial immigrants and rising unemployment threatening its country. Indonesia is concerned about the rise in piracy in the *Pelabuhan tikus* (rat harbors) in the southern portion of the Strait (Enodo Global, 2018). Only Singapore has clearly stated its stance. The other two countries have not yet established a clear position.

Tensions stemming from competition in the Arctic highlight collaboration with Russia as a key point of interest (Heng & Freymann, 2023; Krasnozhenova et al., 2021). The new shipping route in the Arctic presents significant opportunities and impacts the stability of the Indo-Pacific region, especially around the Malacca Strait. Changes in ship traffic in the Malacca Port area can greatly affect the economy and security of neighboring countries, including Indonesia, Malaysia, and Singapore (Heng & Freymann, 2023). Therefore, it is evident that the tensions between Beijing and Washington contribute to instability in the Indo-Pacific region.

Given the potential impact of Arctic developments on maritime trade routes in the Indo-Pacific, particularly around the Malacca Strait, ASEAN should prioritize strengthening maritime cooperation among its member states. This could involve joining naval exercises, sharing information on maritime security threats, and coordinating efforts to combat piracy

and other maritime crimes. A unified ASEAN stance would strengthen the position in regional and global affairs. ASEAN should consider actively engaging in Arctic diplomacy to understand and address the potential impacts of Arctic developments on the region. This could involve establishing formal dialogue mechanisms with Arctic states, participating in Arctic Council meetings as observers, and conducting joint research on Arctic issues.

5. Conclusion

The Arctic, once a frozen frontier, is now melting, leading to a geopolitical rivalry among global powers. The United States, Russia, and China are competing for influence in the region, drawn by the promise of untapped resources and shorter shipping routes. This transformation is turning the Arctic into a potential hotspot of geopolitical tension. Realism theory provides a compelling perspective on competition in the Arctic and Indo-Pacific, showcasing how nations pursue their interests in our complex global landscape. In the context of the Arctic, significant influences seek to maximize their strategic and economic gains, often at the expense of other states.

This newfound interest in the Arctic reverberates globally, particularly in the Indo-Pacific. The Arctic is becoming more accessible, leading to changes in trade routes and economic opportunities. Increased maritime traffic and resource extraction could significantly impact the region's economy and security. However, the environmental consequences of this rapid development cannot be ignored. The delicate Arctic ecosystem is under threat, and the potential for accidents and spills looms large. International cooperation is essential to navigate this complex interplay of geopolitical interests and environmental concerns. By working together, nations can balance economic aspirations with environmental stewardship. Diplomatic efforts to establish norms and regulations for Arctic activities are crucial to ensure sustainable development and minimize the risk of conflict.

The challenges are immense. Due to the Arctic's fast rate of change, it is challenging to foretell future events. Geopolitical tensions and competing national interests can hinder cooperation. The long-term environmental impacts of human activities in the Arctic remain uncertain, prompting global concern as the region changes. The competition for access to the Arctic has fostered intricate interactions in the Indo-Pacific region. As the Arctic's importance continues to rise, states are competing to assert control over its economic and strategic

opportunities, while the Indo-Pacific remains a pivotal arena for intense international engagement and competition.

From an economic perspective, the urgency to explore the Arctic has generated new trade opportunities and resource extraction efforts, resulting in shifts in trade patterns. Security concerns are highlighted by the securitization of the Arctic and geopolitical conflicts of interest in the Indo-Pacific region. Furthermore, as Arctic ice melts alarmingly, the region becomes increasingly accessible for commercial and military activities.

Finally, countries in the Arctic region and the Indo-Pacific region are connected by the ocean. Environmental changes caused by climate change would impact the environment and stability of the region. To achieve a balance of power in the Arctic and Indo-Pacific regions, countries need to focus on cooperation and collaboration that balances economic opportunities with environmental sustainability. Middle-power countries such as Singapore, South Korea, the Philippines, Vietnam, Japan, and India have engaged in the Arctic through educational institutions, research initiatives, and political involvement. ASEAN should enhance cooperation by participating in the Arctic Council. Asian nations, particularly Malaysia and Indonesia, should be involved in the development of the Arctic region. The potential opening of the Northeast Passage could diminish dependence on the Malacca Strait. The choices today will profoundly affect this delicate area and have far-reaching global consequences.

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