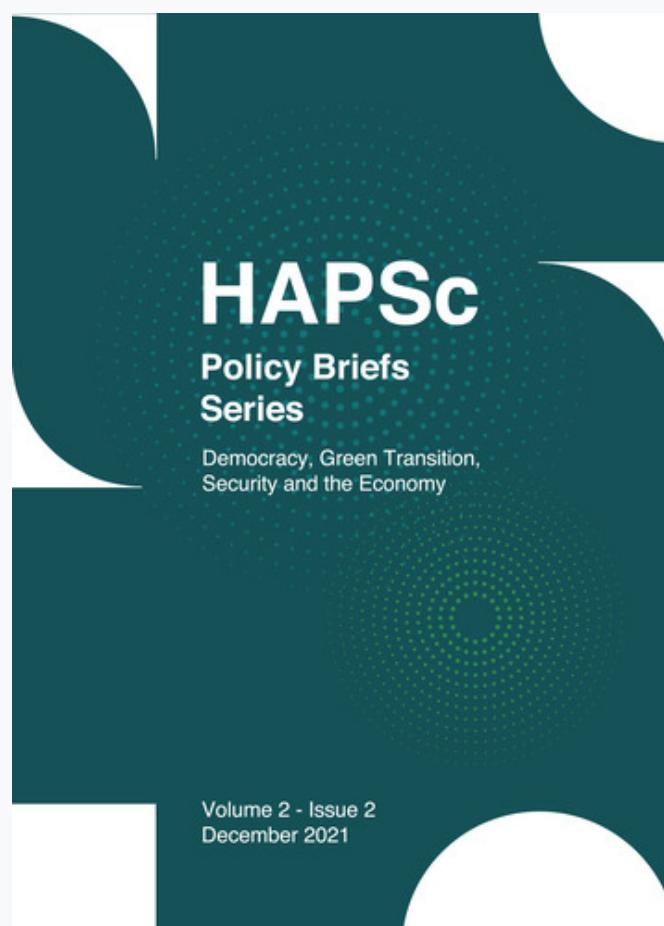


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China's Efforts to Control the Arctic Rimland: A New Cold War

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China's Efforts to Control the Arctic Rimland: A New Cold War¹

Marina Fragkouli²

Abstract

In 2018, China released the much-expected White Paper and its Arctic policy in the region. China foresees the economic opportunities and realizes the territorial challenges as it seeks an active role in the Arctic opening. The White Paper outlines China's aspirations and strategies to develop the Polar Silk Road across the Arctic Ocean. As a non-Arctic state and without a claim of territory, China will likely have to rely on cooperation and invitation of Arctic states so as to advance its interests in that area. This policy brief outlines China's interests in the region as well as the socio-economic and environmental challenges that will be called to manage. Moreover, it examines the probability to be declared a greater Arctic player through the emergence of the Polar Silk Road and possible shifts in the current status quo and the balance of power in the region. Thus, taking all these into account it briefly suggests four possible measures.

Keywords: China; environment; Arctic; Polar Silk Road; natural resources; strategy; EU

Introduction

China's rise and the world's shift to a multipolar system have contributed to China's growth as a major player in the Arctic, becoming an important "Arctic stakeholder" and playing a significant part, as a polar power, among global giants. It's an indisputable fact that China's strong interest and the opportunities offered in the region stem from the urgent need for traditional and non-traditional security, technological and science research, as well as natural and economic resources. The intensification of energy cooperation with Russia and the creation of economic partnerships in the Arctic region reveal Beijing's ambitions and its strategic presence there (Pelaudeix, 2018). By using Polar Silk Road (PSR), China can secure free transportation through the Arctic route and avoid passing through the sea-lanes of Malacca Strait, the Panama Canal, or the Somalian Coast, which may have a negative effect on either security or economic issues. Not to mention that the abundance of economic and natural resources in polar regions enables China to alleviate its energy security problems and utilize its "near arctic state" position to stake out the exploration and exploitation of natural resources, such as Arctic's natural gas and oil reserves (Eiterjord, 2019). Furthermore, it is evident that China's intention is to expand its influence and interest in polar affairs. Notwithstanding the paramountcy of the political goals at the present, it's an inescapable fact that Beijing's economic interests will increase soon (Brady, 2019). Nonetheless, the Polar Silk Road (PSR) may also generate

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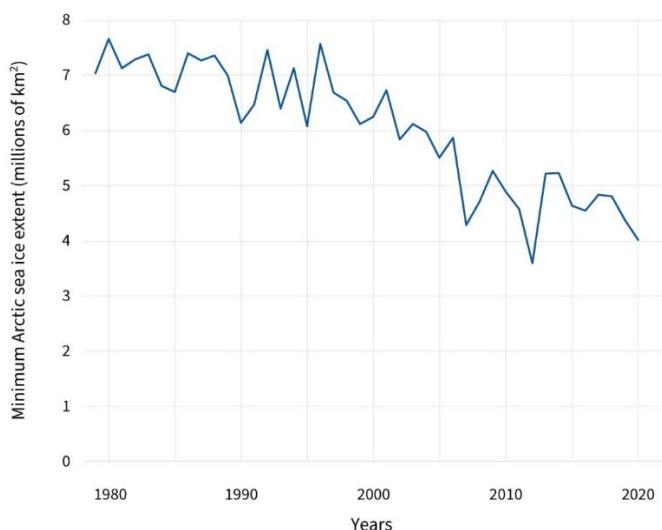
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numerous environmental and social negative effects on the PSR countries and regions. Consequently, the emerging challenges from the developing infrastructure require strong political unity and will by the Member States of the EU and their partners, in order to address environmental, social, political and security issues and finally achieve a win-win outcome.

As the average global temperature on Earth continues to increase, the inevitable result is the rapid ice melting in the Arctic region with the climate impacts having already hit the surrounding countries. Provided that the Arctic Ocean may no longer be covered by sea-ice but water, the Northeast Passage will be accessible by 2050, considering also the annual near-surface air temperature change (Havnes, 2020; Stroeve & Notz, 2015). Despite all economic benefits which may result in a significant economic growth, environmental and social effects pose a threat to the Arctic ecosystem and the residents of the nearby regions. Organochlorine and microplastic pollution, ship discharge, air pollution and ocean dumping are just a few examples of the general ecological disaster (Dietz et al., 2019; Obbard, 2018). The absence of comprehensive governance structure in the Arctic has continually been drawing the attention of academics, non-governmental organizations, and policy makers alike. We should also pay close attention to the fact that there is not a treaty to supervise the Arctic affairs and much of the region constitutes international waters (Assef, 2018).

As temperature in the Arctic region has risen by 3 to 4°C and Arctic ice keeps melting, commercial enhancement of new trade routes and the exploitation of natural resources become increasingly viable. At the same time, economic opportunities hasten the international jostling for control in the Arctic region.

Figure 1: Arctic Sea Ice Extent



Source: Satellite observations. Credit: [NSIDC/NASA](#), 2021

The emerging governance challenges that take place in the Arctic region could provoke conflicts. Thus, increased military presence and Arctic region's military buildup have inevitably become essential tools for the security of the region. Territorial conflicts and the maritime disputes that arise from diverging interpretations of UNCLOS, require particular attention too. The commercial development through PSR also accelerates the development of non-security policies in order to confront environmental and social risks, such as rescue operations and oil spills, that may hazard human health, security and safety. Notwithstanding, a direct conflict over the Arctic is very unlikely, according to academics and experts who have studied the plausibility of conflict in the region (Osthagen, 2019).

The Blue Economic Passage

The concept of "Silk Road on Ice", as originally proposed by Sergey Shoygu, the Russian Minister of Emergency Management, did not attract much attention at "the Arctic: Territory of Dialogue" Conference, which took part in 2011. However, in 2012, Beijing took the initiative to employ the icebreaker "Snow Dragon" in order to pass through the Arctic Sea Passage from Qingdao to the Arctic Circle and conduct research activities. Since 2013, China - together with five other states (Japan, Italy, India, South Korea, and Singapore)- has obtained observer status in the Arctic Council, with Chinese stakeholders having a great interest in the development of PSR and both an effective and active participation in Arctic affairs (Tillman et. al., 2018). In 2016, the construction of Russia's Arkhangelsk port began with China's financial contribution, which is to be completed by 2035, and a year after China's president Xi Jinping included in the agenda the collaboration with Russia and the construction of the Blue Economic Passage through Arctic navigation routes. On the basis of Sino-Russian policy coordination, in 2018, Polar Silk Road was involved in China's Arctic Policy as an extension of China's Belt and Road Initiative (BRI), in view of closer international coordination in commercial strategy issues, relating to a sustainable energy supply system offering economic viability, ecotourism, greenhouse gas abatement, through lower carbon emissions, and aquacultural food trade (Havnes, 2020). The main purpose of BRI and its following infrastructure projects is to better link China to the foreign market and particularly Europe through marine and rail trade and telecommunication facilities (Lin et al., 2019). This project, which presently engages over 150 countries, gave prominence to China's investments and concomitant to the strategic and political importance of many regions worldwide, including the Arctic. China therefore is examining the potential of shipping through the Polar Silk Road, taking the Northern Sea Route in the Russian Arctic (Bennett, 2015). China's Arctic Policy was officially established in the 2018 Arctic White Paper,

declaring itself a “near-Arctic state”, despite its lack of an Arctic border (Eiterjord, 2019). This rationale began to gain ground when Beijing attempted to obtain formal observer status within the Arctic Council - an intergovernmental forum established in 1996 in order to deal with environmental and soft-policy issues - with the purposes of coordination and regional cooperation, multilateral and bilateral affairs, climate change, ecological environment, economic development, global governance and interaction. It includes the eight Arctic States (Canada, Greenland, Iceland, Norway, Sweden, Finland, Russia, and the United States), as well as six Permanent Participants who represent the indigenous, such as the Inuit who originate from the Thule culture, and local communities, such as Nunavut (Lanteigne, 2014). Finland currently holds the Chair. A growing number of actors have also requested to have the observer status by the Council. Among the actors are China, India, EU, and Germany. However, the reasons why EU’s request to be an Arctic member is still pending acceptance, given, on the one hand EU’s diplomatic dispute with Canada occasioned by EU’s ban on Canada’s seal hunting and, on the other hand EU-Russia conflict over Ukraine and Crimea (Osthagen, 2019). Furthermore, except for China, South Korea and Japan are also involved in Arctic development. Through this multilateral forum with its East Asian neighbors, Beijing aims at the coordination of their interests and policies and the increase of Asia’s status in Arctic governance. All of them also have a keen interest in LNG imports from Russia (Biedermann, 2020). Projects like the Yamal LNG project in Siberia will lessen China’s vulnerability to the “Malacca Dilemma, the “choke point” trade route (Assef, 2018).

China has also declared its respect towards sovereignty and territorial rights of the states around the Arctic, on the basis of 1982 UNCLOS Agreement, and its unwillingness to dispute norms and rules in the region (Lim, 2018). Inferentially, China aims to achieve international cooperation rather than competition (Heininen et. al., 2020).

As regards the environmental challenges, the current state of the Arctic is undoubtedly more susceptible to climate crisis than most other regions of the world if we especially consider how sparsely populated and the concomitant deficient human action in the arctic ecosystem, which is exposed constantly to fragilities and vulnerabilities. Not to mention the major industrialized economies of the EU that also have a great impact. Hence, the current changes are the outcome of the direct climate impacts, as well as the indirect socio-economic and political effects, which may have multiple impacts on the whole planet and also affect people in numerous ways (Tillman et. al, 2018).

Why is strategically important China's involvement in the Arctic?

Despite the Arctic's isolation, China can gain strategically important benefits from its active involvement in Arctic affairs and the opening of the region.

Economic Rationale and Distance to Europe

It is anticipated that PSR can lessen the distance and current sea routes to Europe from China up to 15 days in comparison with the Malacca/Suez Route. For instance, the distance from Shanghai to Hamburg will be reduced by 2,700 nautical miles through the Arctic (Oxford Analytica). Given that, not only the cost is lower through lower fuel consumption, but also cuts down greenhouse emissions and reduces the environmental footprint. China also can export goods to Europe and beyond, through faster and less expensive routes (Chater, 2016)

Geopolitical Rationale

China's reliance on the Straits of Malacca and the potential vulnerability of China to a US navy blockade led Chinese policymakers to search for alternative sea routes. Any such action would threaten China's energy security and its energy supplies, especially if we consider that nearly three-quarters of its oil imports stem from the Strait.

Partnership

The partnership between China and Russia and the mutual benefits from the PSR make impossible the "close" of the Northern seaway compared to the United States of America. Russia is more experienced in Arctic shipping and foreign ships will be under Russia's escort and its icebreakers. More specifically, Russia holds more than 40 icebreakers, while China and the US have only two. Considering the average cost of building an icebreaker at about 700 million dollars and the time needed, it's not in China's best interest to invest in this at this time. Russia, through PSR, aims at the collection of transit fees and the hydrocarbon extraction in its northern regions. Generally, China wishes to play a greater and more active role within the Arctic Council (Peng & Wegge, 2015).

Energy security

The Arctic Ocean is believed to have huge amounts of mineral deposits such as copper, nickel, gold, coal, uranium, diamonds, and tungsten and produces 25% of the world's natural gas and 10% of its oil. China's economic development and industrialization as well as its demand for hydrocarbons complete Russia's demands for non-western trade routes and attracting foreign investments for the exploitation of resources in the Yamal Peninsula (Oxford Analytica, 2018).

Science and Technology

Access to the Arctic regions is vital for the roll out of the BeiDou Navigation Satellite System (BDS), its space science program and the accurate forecasting of weather in China (Brady, 2019). In general, the pursuit of growing activities in the Arctic makes obvious China's intentions. The shortened trade routes linking East Asia to Europe and North America as well as the access and exploitation of physical resources, which are plenty of untapped mineral reserves, from the world's largest energy consumer consist only of a few purposes (Lim, 2018). What's more, China will be more conscious of being exposed to emerging challenges resulting from the environment and the rising sea levels. What can be assured is that China and Russia are having the same field of vision. Specifically, the alliance between China and Russia aims to deploy capital in cooperation with other nations, particularly in the West (Assef, 2018). As the two countries are economically aligned in the development of the region, on the one hand, China contributes through the export of technology and skills in order to secure its energy safety and on the other hand, Russia anticipates partners and external capital to develop vast energy reserves which may enhance its economic output.

The Arctic Paradox

From the standpoint of global climate change mitigation, increased exploitation of new hydrocarbon sources affects the environment through their combustion and the release of carbon dioxide (CO₂) or other greenhouse gases. At the same time, new and shorter sea routes through the Arctic region offer both economic benefits and emission savings, but the severe environmental effects of increasing transportation introduce an "Arctic Paradox" and diminish societal security. The multidimensional challenges and risks that Arctic states should encounter through the adoption of proper national policies and strategies on the Arctic, drive also non-arctic states to take national policies on the Arctic in order to prevent the exacerbation of climate change (Heininen et al., 2020).

Concerning the local populations and the indigenous people, in particular the Inuit, of the Circumpolar North, growing economic expansion and economic activities prevail over the environmental challenges according to neoliberal and neorealistic approach. Therefore, a dilemma has spawned from the Arctic chessboard: Expanded economic activities and the attendant need for advanced environmental technologies in order to achieve climate and economic sustainability, may give rise to economic prosperity and more diversified employment opportunities. Nonetheless, having influence over Arctic resources, should be put a lid on powerful international players and enforce the development of severe environmental regulations, so as to curtail not only the degradation of traditional means of life, culture and values, but also the environmental, health and social issues.

Accordingly, Arctic populations could develop more easily self-determination and certainty about the sustainability of the local communities (Heininen et al., 2020).

Arctic environment in jeopardy

Although climate change poses a threat to Arctic Circle's security, nuclear safety, radiation protection, radioactive waste management and the state of emergency are defined as the main environmental problems that should be rigorously adhered to by all Arctic States to lessen the likelihood and repercussions of accidents (e.g., AMAP Report 1997). As Heininen emphasizes, the hectic race of arms in the Cold War without considering the following repercussions, such as the environmental degradation using land and sea areas for military purposes, nuclear accidents and leakages, nuclear weapons testing and deployment and the abandoned garbage, toxic and radioactive waste, led to a greater concern about environmental issues. The environmental awareness due to 1980s and 1990s contributed to the transformation of "militarized" Arctic into "environmentalized" and jeopardies were "reconceptualize", making environmental challenges visible. Moreover, long range transboundary pollutants apply more pressure to the vulnerable Arctic ecosystem. In principle, pollutant elimination is pertained to environmental policy and the responsibilities are distributed among EU and its member states. Both have competence and can join international environmental agreements (Koivurova et. al., 2011).

The Arctic region not only is warming at twice of the rest of the world's rate, but also receiving simultaneously a growing amount of air pollution. The accelerated Arctic warming has caused vegetation's response and wide-ranging greening at high latitudes (Smith et. al., 2020). This Arctic "greening" phenomenon, which affects productivity, vegetation composition and biomass, denotes the terrestrial impacts of climate change across the circumpolar Arctic. Nevertheless, it has been reported an overall decline in greenness in recent years and a reversal of greening drivers into a widespread extent of browning, because of extreme events and winter warming (Phoenix & Bjerke, 2016).

The "Cold" views of the EU

The European Union has become closely and actively involved in the Arctic since 1990 with the Barents Euro-Arctic Council as well as with Sweden and Finland's inclusion to the EU. The main reason that Arctic caught the EU's attention was the geopolitical implications of climate change (Offerdal, 2011). Consequently, it managed to have a regulatory and research impact on Arctic

regimes besides its Arctic engagement through trade and fishing agreements (Miller & Hildenbrand, 2019).

The EU, as a major economic and geopolitical power, has a fundamental interest in promoting multilateral collaboration in the Arctic and assumes its responsibilities in the struggle against climate and biodiversity crises. The EU's environmental footprint and its urgent need for physical resources from the region necessitated its engagement in the Arctic, with the European Green Deal becoming the flagship of its action plan (European Commission, 2021).

However, the EU's engagement in the Arctic is characterized by ambiguity. On the one side of the coin is the fact that the EU can secure commercial opportunities and regulation. On the other side, Union's involvement is due to its lack of direct access to the Arctic Ocean, its paternalistic perception towards Arctic challenges and its "solution provider" role and at last lobbyists, who try to influence and put pressure on climate, animal, or economic affairs (Offerdal, 2011). Generally, the EU has an overriding interest in contributing and taking part in the international debate on the region, adjusting its Global Strategy to the Arctic area of interest and promoting especially its relations with Russia. Notwithstanding, the EU's Arctic Policy has recently taken a more moderate approach, taking into consideration the current regional regimes. The EU's role in security issues is restricted to providing consultative support through forums like the Arctic Security Forces Roundtable and through its participation in relevant conferences in the north, organized, for instance, by the Barents Regional Council. What's more, the relatively amicable and neighborly relationships that prevail in the region, do not require any security operations and Union's presence (Kuus, 2020).

Even though its role is bound to security issues and engagements to regional level, the EU and its member states shall play a profound part in setting the Arctic's trajectory. EU-China, EU-US, and EU-Russia relations, all have the Arctic region as the interface between them, comprising an arena for good-will and relations while making a positive spill-over effect feasible. Due to EU's systematic components its involvement in the Arctic is becoming more achievable, although this may meet with Arctic actors' negative reactions (Peng & Wegge, 2015).

The long-term strategic landscape for the northern affairs should be of prime concern for the Members of the European Parliament, the EU, and its member-states. In addition, considering, in many cases, the unawareness of Arctic actors about the EU's potential contribution, EU policymakers should be duly informed of the Arctic region and its challenges. Taking also into account that the north comprises, for the EU, one of three fundamental regional neighborhoods of great importance from a geopolitical perspective, finding out the complexities shall be a priority (Osthagen, 2019).

Policy Recommendations

On the basis of what has been discussed, four policy recommendations on China's role in the Arctic can be formulated:

- China's Arctic strategy needs to have sustainable development at the top, not only for the promotion of environmental protection, but also for climate change mitigation. Ensuring the sustainable use of the Arctic resources is a milestone for every Arctic-state in the region.
- China also needs to recognize indigenous peoples' rights, who often must struggle for the management of their land's natural resources and the recognition to use them according to their way of life in order to secure their existence in the future.
- Beijing should also consider the hard law enforcement and an efficient compliance regime to preserve high environmental standards in the Arctic and prevent Chinese companies' overharvesting. Strict environmental criteria shall also be integrated into China's domestic law as a prerequisite for authorizing overseas investments, strengthening the Arctic's green image.
- Finally, a new international regime for the Arctic governance and generally governance mechanisms is recommended, which will promote peace and stability, address security issues, and supervise international waters, as the Arctic Council is restricted from moderating such issues. The EU's wide involvement may also contribute to the address of important Arctic challenges (Ostahagen, 2019).

Concluding Remarks

China's emerging role in the Arctic has been characterized as mildly revisionist, reflecting its respect to regional norms and rules. At the same time, China's development to a great power has led to its growing Arctic presence and its hegemonic role on the path, also having a larger role in Arctic's policy making despite its lack of arctic borders. While China's strategic visibility and core concerns have been increased in regions of great importance, the Arctic has sought to preserve the identity of "partner" and act as a responsible global power (Amatulli, 2017). However, in order for China to succeed in the Arctic, it is crucial to ensure sustainability and protect the fragile Arctic environment. To sum up, according to what has been analyzed in this article, China is expected to acquire a prominent role through the years in addressing Arctic issues, due to the fact that the Arctic region will attract global attention and accordingly global actors will be included in handling Arctic challenges. Historically, new transport routes have been connected with radical shifts in the balance of political and economic power (Blunden, 2012). Will the emergence of PSR affect the international balance of power and the current status quo?

References

AMAP (1997). *Arctic Pollution Issues: A State of the Arctic Environment Report*. Arctic monitoring and Assessment Program (AMAP), Oslo, Norway. Available at: <https://www.apmap.no/documents/doc/arctic-pollution-issues-a-state-of-the-arctic-environment-report/67> (Accessed: 26/10/2021).

Amatulli G. (2017). The role of China in the Arctic: challenges and opportunities for a sustainable development of the region. *Jindal Global Law Review*, 8(1), 103–110.

Assef, N. (2018). China's Polar Silk Road: Overview, Challenges & Opportunities. Retrieved from <https://dx.doi.org/10.2139/ssrn.3179218> (Accessed: 23/10/2021)

Biedermann, R. (2020). China's impact on the European Union's Arctic policy: critical junctures, crossovers, and geographic shifts. *Asia Europe Journal*, 1-21.

Blunden, M. (2012). Geopolitics and the Northern Sea Route. *International Affairs*, 88(1), 115-129.

Brady, A. (2019). *China as a rising polar power: What it means for Canada*. A Macdonald-Laurier Institute Publication.

Chater, A. (2016). Explaining Non-Arctic States in the Arctic Council. *Strategic Analysis*, 40(3), 173-184.

Eiiterjord TA (2019). China's busy year in the Arctic. The Diplomat. Available at: <https://thediplomat.com/2019/01/chinas-busy-year-in-the-arctic/> (Accessed: 29/10/2021).

European Commission (2021). Questions and answers on the EU's Arctic Strategy. European Commission. Available at: https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_5164 (Accessed: 22/10/2021).

Havnes, H. (2020). The Polar Silk Road and the People's Republic of China's role in Arctic governance. *Journal of Infrastructure, Policy and Development*, 4(1).

Heininen, L. (2020). Before Climate Change, 'Nuclear Safety' Was There—A Retrospective Study and Lessons Learned of Changing Security Premises in the Arctic. In: Heininen, L. & Pirot, H. (eds). *Climate Change and Arctic Security-Searching for a Paradigm Shift*. Palgrave Macmillan, 107-129. Available at: <https://doi.org/10.1007/978-3-030-20230-9> (Accessed 22/10/2021).

Heininen, L., Everett, K., Padrtova, B. & Reissell, A. (2020). Arctic Policies and Strategies-Analysis, Synthesis, and Trends. IIASA, Laxenburg, Austria. Available at: [10.22022/AFI/11-2019.16175](https://doi.org/10.22022/AFI/11-2019.16175) (Accessed: 22/10/2021).

Isla H. Myers-Smith, Jeffrey T. Kerby, Sonja Wipf (2020) Complexity revealed in the greening of the Arctic. *Nature Climate Change*, 10, 106–117.

Koivurova, T., Kokko, K., Duyck, S., Sellheim, N., & Stepien, A. (2011). The present and future competence of the European Union in the Arctic. *Polar Record*, 48(4), 1 - 11.

Lanteigne, M. (2014). China's Emerging Arctic Strategies: Economics and Institutions. University of Iceland Press. Available at: <http://hdl.handle.net/11250/285164> (Accessed: 22/10/2021).

Lim, K. S. (2018). China's Arctic Policy and the Polar Silk Road Vision. In Heininen, L. & Exner-Pirot, H. (Eds.) Arctic Yearbook 2018, 420-432, Northern Research Forum. Available at: <https://ssrn.com/abstract=3603710> (Accessed: 22/10/2021).

Lin, S., Sidaway, J., & Woon, C. (2019). Reordering China, Reshaping the World: Belt and Road Initiative (一带一路) as an Emergent Geopolitical Culture. *The Professional Geographer*, 71(3), 507-522.

Lindsey, R., & Scott, M. (2020). Climate Change: Arctic Sea ice summer minimum. Climate.gov. Available at: <https://www.climate.gov/news-features/understanding-climate/climate-change-arctic-sea-ice-summer-minimum> (Accessed: 12/11/2021).

Miller, M., & Hildenbrand, A. (2019). Perspectives from the Arctic as a Strategic Space: Geopolitics of the Northern Flank. The George C. Marshall European Center for Security Studies, 38. Available at: <https://www.marshallcenter.org/en/publications/security-insights/perspectives-arctic-strategic-space-geopolitics-northern-flank-0> (Accessed: 22/10/2021).

NASA Global Climate Change: Vital Signs of the Planet (2021). Arctic Sea Ice Minimum. Climate.nasa.com. Available at: <https://climate.nasa.gov/vital-signs/arctic-sea-ice/> (Accessed: 22/10/2021).

Offerdal, K. (2011). The EU in the Arctic: In pursuit of legitimacy and influence. *International Journal*, 66(4), 861–877.

Østhagen, A. (2019). The New Geopolitics of the Arctic: Russia, China and the EU. *Wilfried Martens Centre for European Studies*, 18(2), 259-259.

Oxford Analytica (2018). Polar Silk Road will reshape trade and geopolitics. Dailybrief.oxan.com. Available at: <https://dailybrief.oxan.com/Analysis/DB238508/Polar-Silk-Road-will-reshape-trade-and-geopolitics> (Accessed: 24/10/2021).

Pelaudeix, C. (2018). Along the Road China in the Arctic. European Union Institute for Security Studies (EUISS), 13/2018. Available at: <http://www.jstor.org/stable/resrep21468> (Accessed: 22/10/ 2021)

Peng J. & Wegge N. (2015). China's bilateral diplomacy in the Arctic. *Polar Geography*, 38(3), 233-249.

Phoenix, G., & Jerke, J. (2016). Arctic browning: extreme events and trends reversing arctic greening. *Global Change Biology*, 22, 2960-2962.

Stroeve, J., & Notz, D. (2015). Insights on past and future sea-ice evolution from combining observations and models. *Global and Planetary Change*, 135, 19-132.

Tillman, H., Yang, J., & Nielsson, E. (2018). The Polar Silk Road: China's New Frontier of International Cooperation. *China Quarterly of International Strategic Studies*, 4(3), 345-362.