Abstract: The natural resources and fast shipping lanes of the Arctic circle are becoming ever more accessible due to the ever-hotter climate. Higher temperatures over the next century will have massive economic and security implications for not only the region, but the world. These strategic opportunities, however, are not straightforward, as Arctic Nations are now racing to claim territory and sovereignty over a part of the Earth with little to no regulation. At least, this is a popular consensus of hawkish policymakers, but is it the correct model to absolutely expect conflict? If so, what sort of conflict, and to what extent? This research seeks to describe predictive models of conflict between Arctic nations based on 1) historical, resource-based conflict patterns 2) recent changes to hard security preparations and militarization in the area and 3) classic international relations theory. Having established both norm-heavy and norm-light conflict models, policy recommendation for lowering conflict tension and appropriate security countermeasures are prescribed.
**Introduction**

The Arctic with its relatively short history has always been a disputed territory among many nations. Canada’s claim for the Arctic as its own territory in 1952, started a long fight over Arctic territory. The climate change and global warming further contributed to this fight. A Venta Maersk ship departed from South Korea in August 2018. Instead of going its traditional route through the Indian Ocean, the ship ventured through the Bering Strait in between the Russia-US border. Later it continued its voyage along the Russian Northern Coast and has arrived in Saint Petersburg in September 2018. The Northern Sea Route that the ship took was 5,000 miles shorter than the traditional Suez Canal route. This route change makes it possible to shorten the shipping time by 10-15 days, making the Arctic a place of interest for many actors. Apart from using the Arctic territories for shipping and trade and mineral resources extraction, it constitutes a strategic area that needs to be protected. With so many players and such high-stakes involved, the Arctic nations started militarizing the Arctic by placing troops, constructing military bases, and navigating the Arctic waters with their respective fleets.

In current Arctic literature and geopolitical thinking, the nations involved in Arctic exploration, resource extraction, and regional defense are involved in some sort of medium to long-term game where conflict is inevitable. The vagueness of the previous sentence is by design, as “some sort” adequately describes the level of comfort that quotidian news services have with prescribing rather expansive conflict scenarios. The modus operandi of those who report on the Arctic seem to follow a predictable pattern: 1) outline why the Arctic is important strategically 2) focus that importance at the country level for one or a handful of players and finally 3) give a best-case-scenario and worst-case-scenario of possible conflict.

This may very well serve layperson who needs a quick report on the status of the Arctic, but it should not suffice for policymakers and academics alike who wish to have more at their disposal than boilerplate statements. Indeed, this is the main motivation of this research, to not only evaluate the current geopolitical situation in the Arctic circle, but to generate a model to predict conflict based on known data points.

**Literature Review**

Current literature on conflict prediction in the Arctic fails in two ways; it either supposes to know more about each actor’s motivations without linking those motivations to facts on the ground, or the research focuses too strongly on just one actor and avoids looking at the entire system as a whole. There is a myriad of conflict model approaches to choose from when deciding how to describe any one particular conflict or area of conflict. There are abstract approaches which list possible avenues of assessment, specialized models which describe a part of international

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1 (Olsen 2018)
2 (Reuber 2000)
relations (IR) theory\(^3\), or even country-specific predictive modelling\(^4\). Militarized Conflict Modeling Using Computational Intelligence by Marwala and Lagazio\(^5\) examines conflict applying computational intelligence as opposed to game theory. The authors argue that game theory cannot accurately predict conflict for more than three parties at a time, that is why they refer to computational intelligence.

Marwala and Lagazio designed their program to analyze neural networks for presence or absence of military alliance, common boundary, and whether a state is a major power. Based on these calculations the model predicts a possible outcome of a conflict. Major Powers and Militarized Conflict by Chiba, Machain, and Reed\(^6\) discussed major powers’ motivation for active foreign policy. The research compares observable powers’ capabilities and behavior. The comparison is incorporated into the ultimatum conflict model, which illustrates differences between major and minor powers. The authors conclude that the difference in conflict propensity is dependent on observable differences.

These models for conflict projection, while sophisticated, would not function for Arctic due to the fact that there is no precedent in conflict history that is similar to the current situation in the Arctic. Any computational intelligence would be unable to project conflict outcome based on the analysis of previous variables. For example, global warming has influenced the usage of the Northern Sea Route. The melting of the ice made it possible for ships to go through without icebreaker assistance, making the Arctic a desirable area for economic gains. This is a recent development and since there are no precedents of similar events in the past, the computational intelligence model would have failed to predict heightened interest in the area. Similarly, to the computational intelligence model, major powers and militarized conflict model operated on the assessment that major powers are more prone to conflict.

However, when analyzing militarization of the Arctic, one cannot omit the importance of joint powers such as the NATO and its defense systems. Most of the Arctic countries are either NATO members or NATO partners. According to the model, we would have to categorize NATO as a major power, however this presents a few challenges. First, NATO is not a country but an international organization and in its structure is not similar to a sovereign nation, which can lay a claim for the Arctic territory. Secondly, by analyzing NATO as a major power we would have to overlook national interests of Arctic countries, which are not the same as NATO’s. Due to such discrepancy, we have chosen not to use this model.

The literature specifically focusing on the current situation overall or one country at a time does not provide a full scale picture of the Arctic politics and militarization. Maintaining Arctic Cooperation with Russia by RAND\(^7\) corporation argues that Russia’s current military buildup is not on the same level as in Soviet Union and since Russia has not started a military conflict as of

\(^3\) (Kuperman 2010)  
\(^4\) (Collins 1995)  
\(^5\) (Marwala and Lagazio 2011)  
\(^6\) (Chiba, Machain and Reed 2013)  
\(^7\) (Pezard, et al. 2017)
now, it is unlikely it ever will. This analysis begs a question: is Russia waiting for the complete militarization of its Arctic territories to engage in a violent conflict or is Russia not planning to engage in military conflict in the Arctic at all since it has not in the past? It is evident, that the research does not fully explain Russia’s motivation and intentions for the Arctic militarization.

Flake’s Russia’s Security Intentions in a Melting Arctic provides compelling analysis of Russian geopolitical strategies and Russia’s evolution of policy changes in Arctic, however the scope of the research does not include comparative analysis of other Arctic countries’ strategies and an overview of the Arctic region as a whole.\(^8\) Russia’s Arctic strategies in the context of the. Some approaches, like Hunter’s\(^9\) (2017) or Rasmussen’s\(^10\) (2015), manage to do both cardinal sins when it comes to Arctic conflict evaluation, by confusing particular focus on individual Arctic state actors to be equivalent of or a replacement for conflict model building. Even though the qualitative analysis of state-level activity can be considered thorough, there is little testable material to adequately answer the question of whether military conflict will or will not happen. In both these pieces, because the perspective of Arctic conflict swirls around the perceived acts of one actor, more personal conclusions are drawn rather than scientific ones with respect to the militarization that has occurred there.

A research gap was identified based on the analysis of existing literature on the subject. Lack of conflict evaluation and projection models specifically designed for modern day Arctic, as well as lack of comparative research of cross-country activities in the Arctic were established. In order to break this mold, a non-partial, more scientific approach to militarization in a geopolitical theatre needs to be generated. In the section below, that approach of militarization density is explained.

**Conflict Modeling**

Militarization in geopolitics, while grossly defined by on-the-ground movement of war materiel and troops and the greater IR theories of balance of power, does not have as simple a definition or measurement as its nation-level cousin\(^11\). Militarization on the international level is often attached to a secondary topic like environmentalism\(^12\) or humanitarian aid\(^13\) in current research which requires special contextualization of the term “militarization”. This creates a problem where militarization is rarely looked at on its own as an indicator of statecraft. The result of relying on these patchwork approaches to militarization is either a diluted version of militarization, or a conceptualization so specific that conclusions may be usable for the secondary topics, but not for security studies.

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\(^{8}\) (Flake 2015)  
\(^{9}\) (Hunter 2017)  
\(^{10}\) (Rasmussen 2015)  
\(^{11}\) (Hassonjee 2018)  
\(^{12}\) (Jorgenson, Clark and Givens 2012)  
\(^{13}\) (Song 2012)
Methodology

As has been established, measuring militarization is not a straightforward exercise. It is, essentially, a topic which is open to constant change and differences in interpretation based on not only researcher bias, but also data availability and whether the modeling is computer assisted. This is all to say that while the authors of this article fully support the calculations made to assess militarization, they acknowledge that future developments in this field and possible open access to military information will change the effectiveness of the model presented here.

This research designs a Conflict Militarization Model (CMM) which is based on a Militarization Density (MD) calculation made by consolidating three target concepts, 1) Military Preparedness, 2) Geography, and 3) Time. Military preparedness for this research is measured by combining two key aspects of Arctic militarization: presence, construction, and upgrading of military bases and the number of yearly training exercises inside the Arctic circle. These two indicators are considered not only important given the common narrative of Arctic exploration\textsuperscript{14}, but are also non-influential on each other; military bases are not built or upgraded based on where military exercises are held, and military exercises do not necessarily have to be held close to military installations. These indicators were chosen because expansion, militarization, and strategic interest protection in the Arctic by each country are represented in resources (personnel and materiel) spent.

With the Arctic circle straddling the 65th parallel, military bases were counted if they were inside of the 60th parallel, with the reasoning being that modern aircraft and submarines already deployed in or near the Arctic circle haze the boundary between Arctic and non-Arctic deployment capabilities for all Arctic countries. As for the military exercises, those were necessarily restricted to the Arctic circle, as cold-weather training close to but outside of the Arctic could be preparing troops for operations in many different cold parts of the world. The Arctic’s unique topography would not necessarily translate well for, say, troop involvement in Siberia or the Canadian tundra. It was important then to feature exercises that only focused on operations inside the Arctic circle.

There exist many more possible military indicators to include in this calculation, but data availability of military intelligence is, at times, scarce to non-existent. For instance, while one is able to find the overall military spending of each Arctic country, it is far more difficult to find exactly how much of that money was used on just Arctic projects, a much more granular and useful indicator. The same goes for materiel and personnel, as issues of homogeneity and differing weights based on military capabilities of different countries\textsuperscript{15} make comparisons and index-building of either indicator trickier.

Geographically speaking, the Arctic’s simplicity, in terms of shape and terrains, is both a boon and a challenge to quantify responsibly. To make a calculation of how much of the Arctic each Arctic nation claims is relatively easy, once one has access to historical and current Arctic

\textsuperscript{14} (Gardner 2017)
\textsuperscript{15} (United States Department of Defense 2011)
Using the QGIS 2.18.10 program, size estimates of each Arctic country’s claim were obtained and compared against United Nations Convention on the Law of the Sea (UNCLOS) public information detailing Arctic country claims. At the same time, considering amendments to claims is much more difficult as those changes are less well defined and less angular, making the measurement system by computer less accurate. To ensure accuracy, the shapefiles measured for area were compared to official UNCLOS estimates and verified within less than 1% error. Meanwhile, given the fact that any calculation of the Arctic confrontation will revolve around fluid territorial claims, the decision was made to measure area over the percentage of claimed territory over the entire theatre, so as to more accurately show spatial concentration of military hardware and installations. Time as total years of observation is the constant that ties together all nations observed in this model.

In order to calculate $MD$, a ratio was chosen as the preferred structure to compare the three elements. Where $\Delta B$ is the year-on-year change in the number of military bases near the Arctic, $\Delta E$ is the year-on-year change in the number of military exercises carried out in the Arctic, and $T$ is the percentage of the Arctic circle claimed by an actor in a particular year:

$$MD = (\Delta \text{Military Bases} + \Delta \text{Military Exercises}) \times \% \text{Share of Arctic by Natl. Claim}$$

Or

$$MD_{year} = (\Delta B + \Delta E) \times T$$

Military bases and exercises, though very different in essentially every imaginable way, have one particular connector that makes them good index components: scale. Both can be counted as whole numbers that rarely go into double digits. With the assumption that Arctic nations are more or less equally interested in development of exercises and bases of their adversaries and allies, the authors are comfortable with using simple addition to create a mini-index of military development. Measuring density, on the other hand, is not as straightforward, but is still possible.

Usually, density is calculated as a division, which makes the multiplication in the formula above an interesting prospect. Remember though, that $T$ is a percentage resulting from the division of the square kilometers in a country’s Arctic claims divided by the square kilometers of the entire Arctic circle. As such, by multiplying an index score by a decimal, a division is executed and a density (things inside of a space) is quantified.

Lastly, a time window had to be chosen in which to do this analysis. The five year interval that was selected, 2013 to 2017, was the immediate favorite of the authors for several reasons. Firstly, 2017 was the most recent data year that had the indicators that were used in this

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16 (Durham University 2018)
17 (United Nations 2018)
calculation, and with the situation in the Arctic changing almost daily, it was important that this research reflect current developments in the region. Secondly, a five year interval was chosen because of its “goldilocks” value; five years is enough time to have four years to notice change in indicators and Arctic claims, yet not too long a time where data acquisition may have been compromised by incomplete data on the part of different governments’ reporting of military activity. Thirdly, and perhaps most crucially, the last five years have been characterized by a window of updates to Arctic claims by many Arctic actors\textsuperscript{18}. This means that there was increased awareness of Arctic politics, as well as a heightened sense of competition over not only space, but resources and power projection. In a sense, the last five years could arguably be the most important to dissect for Arctic politics, militarization-focused or otherwise.

**Data**

Data in this research was collected using a combination of database and open-source research into the amount of military materiel and personnel added into the Arctic circle. Specifically, this research compiled data of military movements from news sources, official announcements by involved governments, and satellite imagery. Below is a summary of the sources used for each country’s profile.

**Russia**: Russian language media (TV Zvezda, Vzglyad, Vesti, Ria, Novaya Gazeta), English language media (Barents Observer, BBC), and official government websites (Ministry of Defense, Ministry of Finance, Ministry of Economic Development).

**Canada**: Canadian Government National Defense, Canadian Defense and Foreign Affairs Institute, University of Calgary, US Department of Defense, Russia Today, and Russian language media source RBC.

**Denmark**: Norwegian Defense Department, Danish Defense Department, and the media outlet The Aviationist.

**Iceland**: Iceland Government website, North Atlantic Treaty Organization


**Finland**: Helsinki Times, Swedish Ministry of Defense, U.S. Department of Defense, Stockholm International Peace Research Institute, Uutiset


**Bases**

The bases data was split into two categories: the raw number of bases in each country per year and the change in the number of bases. The two graphs below reflect the statistic acquired

\textsuperscript{18} (Durham University 2015)
through open-source research. The total military installations graphs represents a number of operational bases that each country had at a certain time. For example, in the case of Russia, at the beginning of 2014 there were total 16 military bases in the Arctic. In 2017 Russia built and populated new base, that is why there is a changed it number from 16 to 17. In the case of Denmark, there were 7 military bases in 2013, however Denmark closed one of their bases in 2014, which is reflected in the graph below as well.

The graph representing new bases (constructions or upgrades) depict a change in the number of bases and upgrades made to a base in a given year using 2013 as the baseline year. For instance, as mentioned above, Russia had 16 military bases in the Arctic in 2013, and 17 bases in 2014, resulting in one additional base for 2014. Russia did not break ground on any new bases, however it significantly upgraded four of its existing bases. Such change is depicted in the graph as difference between total number of bases in a given year from a previous year. For example, in 2014 Russia built a new base, which is a reflected as one in the graph below. Denmark closed off a base in 2014, which shows as negative one for 2015. The New Bases graph gives a perspective on the speed, with which the bases are being built or upgraded.
**Military Exercise**

The information about military exercises was split into two categories: total number of exercises and the change (delta) of exercise numbers in a given year. This data was acquired through open-source research. For the purpose of this research national and international exercises are counted in the same category. In such cases when there were several participants in a given military exercise, the exercise was counted towards all participating countries individually. For instance, for one NATO exercise in the Arctic this paper counts one exercise for each individual participant. The highest number of exercises was conducted by Russia in 2017. It is important to notice, that Iceland did not conduct any military exercises in the Arctic between 2013 and 2017. This is due to the fact that Iceland does not have any standing army, however Iceland acts as NATO exercise ground. In 2018 NATO held an initial phase of their Trident Juncture 18 exercises in Iceland. The lowest number of conducted military exercises depicted on the graph was by Sweden between 2013 and 2016; Finland in 2015, Canada in 2015 and 2017, and Denmark between 2013 and 2017.
The graph representing year-on-year military exercise delta depict the difference between the total number of exercises in a given year from the number of exercises in a previous year. This graph showcases the trends in exercises conducted in the Arctic. For example, the United States conducted six exercises in 2014 and two exercises in 2015. This change is reflected in the graph as negative four (two exercises in 2015 minus six exercises in 2014 equals negative four). The delta graphs allows to visualize the trends in exercise conducted by all Arctic countries 2013-2017.
Percentage of Arctic Claims

Of the eight Arctic countries, only two updated their claims in the five year window that this research operates in: Russia and Denmark. While the updates were not large ones, they overlap, causing the far reaches of both countries’ claims to be contested by one another. The contestation in question is over an underwater mountain ridge known as the Lomonosov Ridge. Russia claimed it in 2002 as part of its submission to the UN, but was ultimately told to seek further evidence of its claim. Denmark and Canada also believe the ridge to be part of their continental shelf, though only Denmark has made an official claim.

Other Arctic countries have not been so heavily involved in amending their Arctic claims though they have a chance to do so if they are signatories of the UNCLOS treaty. The United States is the only country to not be a signatory to the treaty, though it routinely exercises sovereignty over its 200-mile territorial sea plot. Figure X shows the percentage claim of the Arctic circle by country by year, or \( T \). As expected, there is not much movement in this graph. The one noticeable change is Denmark’s added claim in 2014 which increased its percentage share by almost five percent.

\(^{19}\) (Harding 2007)  
\(^{20}\) (BBC News 2004)
Results

As is evidenced by Figure X, militarization density for the Arctic system is characterized as a sharp peak in a single year, 2015, followed by a steady but slower decline in the two years that followed. In very simple terms, the information can be interpreted as such: within the Arctic system, militarization became highly concentrated in 2015 and seems to be slowly coming back down. This change can be attributed to two distinct patterns of MD at the state level. First, Russian rebuilding in the Arctic was by far the most aggressive change in both number of active bases and military exercises. Secondly, other Arctic countries seemed content to either remain at their levels of militarization, or in some cases, even retract their Arctic military interests. Regardless of true intent, however, all countries other than Russia preferred to remain in a “holding pattern” with regards to their militarization of the Arctic.

What is notable is the low MD in 2014, the first year of measurement, where seemingly the Arctic neighborhood was not as militarily dense as following years. This figure will be discussed more at length in the following section. For now, $MD_{2014}$ can simply be described as the last year before a sudden change in the Arctic system.

In terms of trends, it is interesting to note that while the conversation in the past two years has, to the authors of this paper at least, seemed to indicate imminent conflict, the militarization
density does not support that outlook. 2017 had a lower MD than 2016, by a magnitude of 35% less density. Whether that means that the area is 35% less likely to erupt into conflict will be discussed later, but if one was to just look at militarization density as the only predictor of conflict, they would find themselves at odds with the current lay literature on the topic.

Conflict Projection

Conflict modeling in this research is dependent upon successfully interpreting the Militarization Density of the Arctic through known and established international relations (IR) theories. The reason why this is the case is twofold:

1. While theory may not directly dictate policy\(^\text{21}\), it should logically follow that state behavior on the international level has a much better chance at being informed by classical theories instead of critical theories of IR considering the strength of institutional memory\(^\text{22}\).
2. Considering the Arctic’s history as a Cold War front, and the continuation of tension between the Russian Federation and the NATO alliance\(^\text{23}\), not enough time has passed,

\(^{21}\) (Fearon 1998)  
\(^{22}\) (Foreign Policy 2008)  
\(^{23}\) (Dadak 2010)
in the opinion of the authors, for old habits or ways of thinking to have been eroded beyond the point of utility.

Ultimately, the goal of creating this series of conflict projections is to generate possible explanations of the militarization density that occurred in the Arctic over the four measured years and, given that information, evaluate the likelihood of future conflict in three eventualities: that the $MD$ in the Arctic remains the same, continues to lower, or rises.

**Realist Explanations of the Arctic Militarization Density**

Put simply, neorealist theory is governed by profit maximization at the state level\(^{24}\), where the survival of the state is the primary directive. The one significant deviation in this line of thinking is the delineation between *offensive* and *defensive* realism, personified by Mearsheimer\(^ {25}\) and Waltz\(^ {26}\) respectively. Whereas the former values material, security, and prestige gains over the balancing of a system, the latter hedges its security bets over moderated and coordinated strategies amongst like-minded actors. Essentially, explaining the Arctic’s militarization density in realist terms means using two similar, yet ultimately oppositional lenses. The one connecting point for both methods of analysis however, will be trying to explain the sudden change in $MD$ from 2014 to 2015.

Offensive realism would try to explain the sudden increase in $MD$ as part of a larger grand strategy that was focusing on offensive and system-bucking outcomes. One event in 2014 which immediately juts out is the Russian invasion of Crimea. President Putin’s aggressiveness\(^ {27}\) in reaching for Eastern Ukraine is now a well-documented affair, but at the time that it happened, many were ringing alarm bells of a potential return to the times of the USSR\(^ {28}\). The invasion was as swift as it was upsetting to the international community\(^ {29}\), and Russia was quickly demonized for its actions. But was the Crimean Invasion a solitary act? Considering offensive realism, it was likely part of a greater offensive move on the part of Russia to establish dominance in its greater neighborhood (a familiar strategy for historians of Russian politics\(^ {30}\)). A strong move in the Arctic immediately following an attack against a neighbor, coinciding with an equally compelling power move to the south in Syria, would not only fit the bill of a “system overload”, but also serve to distract adversaries from focusing on any one attack at once.

Defensive realism, meanwhile, would discount an offensive grand strategy and question whether Crimea, a barren Arctic, and a collapsed Syrian state are strategic points for any country, let alone a potential pole of power. Instead, a defensive realist would not have deviated far from the Arctic to find an explanation of defensive strategy. Denmark’s claim in 2014 over

\(^{24}\) (Waltz, Man, the State, and War 2001)
\(^{25}\) (Mearsheimer 2001)
\(^{26}\) (Waltz, Theory of International Politics 1979)
\(^{27}\) (Gedmin 2014)
\(^{28}\) (Geifman and Teper 2014)
\(^{29}\) (Mankoff 2014)
\(^{30}\) (Kennan 1947)
essentially the same continental ridge that Russia credits itself with discovering meant more than having to deal with the Danish delegation at the UN. It meant that a NATO-backed power was willing to challenge Russian power and prestige in a part of the world which Russians consider to be their birthright. The massive buildup of bases and increase in military exercises could very well have been a power play designed to “remind” Denmark of its relatively lower power respective of a Russian military hierarchy. Not to mention, the potential of having to share mineral and oil extractions over the territory at stake, Moscow could very well have considered the Danish claim to be a threat to be dealt with sooner rather than later. The “flash” of increased MD would have sufficed to send a message that Russia was ready to defend its interests; subsequent years would not need nearly as strong a show of force, and indeed the MD for 2016 and 2017 are both lower and influenced heavily by Russian decision making.

**Liberal Explanations of the Arctic Militarization Density**

A neoliberal lens would be beneficial to looking at changes in military density in the Arctic considering the close ideological and historical conflict aspects of the Cold War. In that case, any and all evaluations of the Arctic system would fall under the concept of “Complex Interdependence”, made famous by Keohane and Nye in their nominal article “Power and Interdependence”. In it, Keohane and Nye lay down the tenets of neoliberalism: furthering peace through trade linkages, coalescing democracies and like-minded nations to come to each other’s defense against illiberal forces, and a general lowering of tensions brought upon by the strengthening of intercultural and intergovernmental connections.

When it comes to the Arctic specifically, using neoliberalism as a lens does more than just change the assumptions of international hierarchy and anarchy. It changes the level of analysis, as it no longer works to look at the situation on the state-level, but rather on the international-level. This is because any neoliberal worth their salt will, almost automatically, view the situation in the Arctic as a NATO vs. Russia scenario, not a complete free-for-all. Looking at the situation through that lens, the narrative that Russia is being the “big bully” on the block is actually flipped, as NATO-allied-countries collectively present a much more imposing front in the Arctic than Russia ever did in the years analyzed in this research. Table 1 shows this very dynamic:

<table>
<thead>
<tr>
<th>MD Indicators</th>
<th>NATO</th>
<th>Russia</th>
</tr>
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<tbody>
<tr>
<td>Military Exercises</td>
<td></td>
<td></td>
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<tr>
<td>2013</td>
<td>8</td>
<td>3</td>
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<td>19</td>
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<tr>
<td>Military Bases</td>
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<tr>
<td>2013</td>
<td>23</td>
<td>15</td>
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<td>2016</td>
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<td>16</td>
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<tr>
<td>2017</td>
<td>23</td>
<td>17</td>
</tr>
<tr>
<td>Share of Arctic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>56%</td>
<td>43%</td>
</tr>
</tbody>
</table>

*Table 1 – MD in the Arctic as NATO v. Russia*

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31 (Roberts 2010).
32 (Keohane and Nye 1989)
33 (Stokes, et al. 2014)
34 (Reed, et al. 2016)
If Russia is responding to a NATO presence, then it would beg the question, is Russia’s aim to balance the Arctic? Or, is Moscow interested in finding another weak point in American armor, considering the Kremlin’s continued use of sharp power? The latter would fit more easily in explaining Russia’s actions in Syria and Crimea, yet actions against possible NATO members and a revival of Middle East power plays could very well play a part in this new calculation.

Military Density Projections and Effects on Future Conflict

Though it may appear obvious, it is still important to state that at current levels of \( MD \), armed conflict has not arisen in the Arctic, even if at times it seemed imminent. At its highest level recorded in this research, 3.844 in 2015, there were no recorded skirmishes or anything remotely close to warfighting in the Arctic circle or the region. At its most rudimentary, the current model is best described by saying that an \( MD \) of 3.844 is not high enough to illicit combat in the Arctic.

What about future projections? As was made apparent in the previous section, theory can help in understanding what events led to the current state of \( MD \) in the region, but in applying theory to this system, a pattern emerged: proportionality of \( MD \). Realists and Liberals look at the situation in the Arctic in many different ways, but the most apparent difference in the opinion of the authors is the difference in proportionality of militarization with regards to Russia. Specifically, whether one should create a conflict projection based on whether 1) Russia is miles ahead of every other Arctic actor in militarizing the Arctic and is therefore responsible both from a factual and normative standpoint for the rise in \( MD \) or 2) Russia is counterbalancing and playing catch-up to what it perceives to be a NATO dominance of the Arctic territory which NATO has enjoyed, practically speaking, since the end of the Cold War.

Under the first option, the proportionality of \( MD \) is heavily weighed in the favor of one country, Russia, giving the region a clear pole of influence and power. In such a monopolar world, the prospects of conflict appear only if the strongest actor had expansionist tendencies. Russia has certainly shown those tendencies under Putin, and its larger Arctic claim update is evidence that it has similar intentions in the Arctic. Russia’s other expansionist policies, however, only deal with non-nuclear powers, meaning that Russian expansion in the Arctic is perhaps curtailed. That being said, Russia could very well enjoy its position at the top of the Arctic pile from a defensive point of view. Russia has historically enjoyed a buffer between Moscow and its furthest reaches, and countries like the US and even Scandinavia have been adequately content to allow that buffer to exist so long as it did not actively affect their immediate interests. All this to say that a high proportionality of \( MD \) could only produce armed conflict if the actor that contributes the most to the \( MD \) has expansionist aims, nuclear question withstanding.

\( ^{35} (Walker\ and\ Ludwig\ 2017) \)
\( ^{36} (Osborn\ 2010) \)
As for the second option, if this is an act of Russia rebalancing its forces against NATO, then the proportionality of MD between perceived regional competitors is much, much smaller in practice than in theory. That closeness and potential feeling of being caught up to or surpassed by NATO countries could very well be even more dangerous for international peace. This is because while in the first option, only one actor can realistically begin hostilities considering the others’ weakness, but when there is direct, almost even competition between two or more actors, game theory dictates that the smartest move is to attack first, giving incentive to the either actor to initiate conflict.

**Conclusion**

This research has approached the conflict in the Arctic in the hopes of ending the speculation about military capabilities and worn out Cold War talking points in order to better describe potential conflict in the system. In order to better quantify the existing tension in the Arctic, a militarization density was calculated using military bases, exercises, and the most up-to-date Arctic territorial claims for all countries with claims within the Arctic circle. Once the militarization density was established, the pattern that emerged was evaluated against trusted theories that are likely to have informed policies which led to the current levels of militarization. That evaluation led to the comparison of two conflict models. The first, where one Arctic actor, Russia, is the clear center of power and its hegemony over the system can abate conflict so long as nuclear deterrence remains prevalent. The second, where NATO’s long-standing consolidation of power over the Arctic is being actively challenged by Russian resurgence in the system, leading to NATO countries feeling more pressure from Russia and forcing active competition where there was none prior.
References


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