

**Here Comes the Sun:**  
Constraining Russian Aggression and Ambition in the Arctic  
Through the Analysis of Structural Realism

Samantha Battey

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*Primary Advisor:*

Dr. Michael Kanner, Department of International Affairs

*Defense Committee:*

Dr. Michael Kanner, Department of International Affairs  
Professor Aysegul Aydin, Department of Political Science  
Professor Shuang Zhang, Department of Economics

Abstract: This paper is a broad case study attempting to reconcile how structural realism can use different liberal theories and concepts to accomplish realist ends. That being said, the current situation in the Arctic has real-world significance that draws equal importance with the theoretical implications of this thesis. As climate change is opening the Arctic to economic exploitation in the near future, this paper addresses the rising importance of the Arctic and the issue of how the U.S. and its allies should respond to Russian militarization of the Arctic while ensuring their own interests. By the utilization of structural realism in the analysis of the situation, this paper argues that an efficient way to prevent Russia from gaining economic capabilities in the Arctic is through a political agreement based on the common interests of the “Arctic Five”: the United States, Russia, Canada, Denmark, and Norway. Preference schedules analyzes and compares each state’s individual interests, resource sovereignty, continued peaceful operations and cooperation, and environmental sustainability. The analysis of UNCLOS and the Antarctic Treaty System reveal both relevant provisions and crucial mistakes to be taken into account while constructing this political agreement. After a discussion of specific policy, this thesis concludes that a political agreement is the most effective way to constrain Russian aggression and ambition in the Arctic.

## KEY WORDS

- Arctic
- Climate Change
- Structural Realism
- Continental Shelf
- Political Agreement
- Russia
- United States
- United Nations Convention of the Law of the Sea
- Antarctic Treaty System

“You know, once something freezes, it’s solid. That’s the key to the Arctic – they didn’t fear the cold, they made use of it.”<sup>1</sup>

- Wade Davis, Canadian Arctic Anthropologist

## **Introduction**

The last frontier of our planet is melting, perhaps beyond repair. The National Oceanic and Atmospheric Administration’s 2017 Arctic Report Card summarized the new normal in the northernmost part of Earth by succinctly stating: “the Arctic shows no sign of returning to the reliably frozen region of the past decades”<sup>2</sup> [See Fig. 1]. Demarcated at latitude 66° 24` N<sup>3</sup>, the Arctic Circle encompasses the Arctic Ocean, taking up an area larger than the size of Europe at 5.4 million sq. miles, includes parts of eight countries, and the home of four million people<sup>4</sup>. Remarkably, this previously inconsequential landscape is estimated to have trillions of dollars in untapped resources beneath its ice cap<sup>5</sup>, a reality which has largely been ignored by the international community until now due to the complex challenges and high costs of operation in a climate brimming with ice and a temperature that regularly reaches below -50°F. However, these circumstances are rapidly changing due to the warming of the Arctic as a result of the processes of climate change. The rising temperatures in the Arctic are ameliorating some of the challenges of resource extraction. Eventually, and arguably very soon, it could become cost-effective to extract the trillions of dollars of natural resources in the High North, as the Arctic is often called. Likewise, the rapid deterioration of the Arctic sea ice extent is exposing brand new shipping routes that will save states money and time by cutting significant distance off the current roundabout shipping routes.

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<sup>1</sup> Men’s Journal. 2012. “Wade Davis, Wandering Man,” October 18, 2012.

<sup>2</sup> National Oceanic and Atmospheric Administration. 2018. “Arctic Report Card 2017.” National Oceanic and Atmospheric Administration.

<sup>3</sup> National Snow and Ice Data Center. 2017. “What Is the Arctic?” 2017.

<sup>4</sup> Ibid., 2.

<sup>5</sup> Raul Pedrozo. “Arctic Climate Change and U.S. Accession to the United Nations Convention of the Law of the Sea.” International Law Studies. Vol 89. (2013).

Eight countries are incorporated in the Arctic Circle; however, this paper will focus solely on the five Arctic coastal states dubbed “the Arctic Five”: the United States (U.S.), Canada, Denmark, Norway, and Russia<sup>6</sup>. Despite the rising relevance of the Arctic, the current regimes governing the High North are incompatible with the changing physical realities of the environmental and geopolitical landscape. For example, in response to this improved economic outlook, Russia has engaged in an aggressive militarization of its Arctic sector<sup>7</sup> in stark contrast to the four other Arctic coastal states, all of which are members of the North Atlantic Treaty Organization (NATO). In light of NATO-Russian clashes in Crimea and Russia’s recent meddling in western democratic elections, many analysts, from journalists to politicians, have commented on the importance of the geopolitical future of the High North, with some pundits warning of a new Cold War<sup>8</sup> while other less alarmist analysts believe the current trend of cooperation will prevail.

Bearing in mind the suspicion about Russian intentions in the international arena, and with an estimated trillions of dollars on the line, the two main questions are:

- In the face of aggressive Russian militarization and posturing in the Arctic compounded by conflicting territorial claims worth millions, if not trillions, of dollars, how should the U.S. and the other three Arctic coastal states prevent Russia from becoming the Arctic hegemon while ensuring their own interests in the Arctic?
- If Russia’s militarization of their Arctic sphere could create a growing security dilemma, a condition undesirable to all of the Arctic Five, the next question is about

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<sup>6</sup> Sweden, Finland, and Iceland are the additional three non-coastal countries with territory included in the Arctic Circle

<sup>7</sup> Sector Theory creates a sovereign sector for each Arctic state created by the longitude running from east and west coast to the North Pole

<sup>8</sup> Cohen, Ariel. n.d. “The New Cold War: Reviving the U.S. Presence in the Arctic.” The Heritage Foundation. Accessed December 12, 2017.

Russia's real intentions. With their heavy reliance on the exportation of oil and natural gas for their economy, how far will Russia be willing to go to defend their claim on one of the world's largest untapped oil and gas depositories?

While cooperation is the current norm of state behavior in the Arctic through institutions such as the Arctic Council and search and rescue zones of responsibility, the hallmarks of past power conflicts are present in the Arctic: lucrative resources, close proximity of nuclear powers, and an emerging security dilemma.

This paper will argue that through the lens of structural realism, the U.S. and the other Arctic states can and should constrain Russia by using their stronger relative power to shape a political agreement centered around the common state interests of resource sovereignty, non-militarization of the Arctic with continued cooperation and coordination, and environmental sustainability, which will be used as a rhetorical tool to prevent Russian resource extraction past their 200-mile sovereign boundary known as the Exclusive Economic Zone (EEZ).

This paper is organized as follows: after reviewing the relevant literature on structural realism, the current governance in the Arctic, and the ordering of state outcome preference, this paper describes the methodology used for syncing state interests through the use of preference schedules of the relevant states. Then, the current circumstances and tension in the Arctic will be described by focusing on how climate change has opened economic opportunities followed by a description of the vast extent of Russian militarization in comparison to its Arctic neighbors. From there, this paper will analyze the two case studies of treaties that will be used in framing a future political agreement for the Arctic. Finally, after a discussion of expanding the role of structural realism in international theory, this paper concludes that Russian aggression in a region with as much economic importance as the Arctic warrants the need for cooperation. Furthermore, a

political agreement will not only establish rules of cooperation and pre-empt territorial conflicts, but if done correctly, can constrain one of the most worrisome actors in the international system.

Overall, this thesis aims to contribute to relevant research in three aspects.

- First, this thesis hopes to add to the emerging literature in structural realist theory on how states can use institutions, specifically international law and political agreements, and other liberal concepts to inhibit other states in a form of balancing.
- Second, this thesis seeks to expand the use of preference schedules by using them to establish the order of outcome preference for states.
- Third, this thesis establishes an ideal outline of a political agreement, from a positive analytical standpoint, between the Arctic Five which fosters resource sovereignty, non-militarization and continued cooperation, but most importantly an avenue to limit Russian accumulation of economic power in the Arctic.

## **Literature Review**

In keeping with the increasing geopolitical salience of the Arctic, a significant amount of literature has been written about the subject within the past decade. However, many questions remain about particular aspects of this analysis. In reviewing the literature, this paper first presents a discussion of how structural realism views institutions, followed by the current thinking on how to form preference schedules and rank interests. Finally, this section will explore the current opinion on the current institutions in the Arctic and if they are suited to the issues that permeate the High North.

Structural realism, also known as neorealism<sup>9</sup>, will be used in this paper as a theoretical framework in order to analyze how structural elements of the international system influence states and their behavior by driving states to cultivate power relative to other states in order to ensure their own survival. First outlined in Kenneth Waltz's 1979 book *Theory of International Politics*<sup>10</sup>, structural realism has become one of the most influential theories of contemporary international relations. Overall, structural realism is a parsimonious theory arguing that the structure of the international system is the main influence on states and their behavior. There are five main tenets of structural realism:

- 1) The international system is anarchic and therefore states are the primary actors of this system.
- 2) One can never know a state's true intentions.
- 3) The main goal of the state is survival, secured by gaining power through a distribution of economic and military capabilities.
- 4) Power is relative between states and consequently an increase of power by one state leads to decrease in power of any other state.
- 5) The cycle of states accruing more power than what they perceive the relative power of other states to be constitutes a security dilemma.

The concept of anarchy in realism indicates that states must provide security for themselves. In order to achieve a state's goals and preferences, the state must ensure its survival by building up military and economic power relative to other countries. The anarchic system compounded by the uncertainty of other states' intentions leads a state to accrue economic and military capabilities to enhance their power in order to ensure its survive.

But how do institutions, especially multilateral institutions, work within the realm of structural realism? Existing literature suggests that states can use institutions to achieve their own

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<sup>9</sup> Due to its prominent position in International Relations Theory, a lot of literature has been written on the subject; however, I will only focus on the basics of structural realism.

<sup>10</sup> Waltz, Kenneth N. 1979. *Theory of International Politics*. Reading, MA: McGraw-Hill.



interests<sup>11</sup>. More specifically, Waltz writes that institutions are a reflection of the power of the states that created them; accordingly, these institutions only survive as long as they serve the national interests of the most powerful states<sup>12</sup>. In another perspective, structural realists argue that institutions affect states by encouraging behavior that states wouldn't otherwise consider, such as foregoing short-term goals based in self-interest for long-term community goals<sup>13</sup>. However, Scheller and Priess argue that structural realism's parsimony has led to underdeveloped models about both the creation and effectiveness of institutions in this realm<sup>14</sup>. Structural realism often dismisses aspects of the international system which do not deal with economic and military power, such as institutions, which structural realists view as inconsequential. This ignorance has hurt structural realism in past since it omits how states can use these institutions to increase their relative power by limiting the power of others. Much of the literature has focused on how states are affected by institutions such as international law; however, less literature exists on how states use international law and institutions to affect or influence other states.

A methodical understanding of each state's interests is essential in order to find common interests to create the foundation of a political agreement<sup>15</sup>. In 1999, Jeffry Frieden wrote about how the organization of a state's interests ranked in preference of outcome, through deduction and indirect observance, could assist in discovering a state's overall strategy, in addition to a discussion on how an actor's interest can transform depending on the strategic setting<sup>16</sup>. The expression 'preference schedules' was first described in terms of voting, which ranks the preference of each

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<sup>11</sup> Waltz, Kenneth N. "Structural Realism after the Cold War." *International Security*, Vol. 25, No. 1 (2000): 5-41.

<sup>12</sup> *Ibid.*, 10.

<sup>13</sup> Jervis, Robert. "Security Regimes." *International Organizations*, Vol. 36, No. 2. (1982): 357-378.

<sup>14</sup> Schweller, Randall L. and David Priess. "A Tale of Two Realisms: Expanding the Institutions Debate." *Mershon International Studies Review*, Vol. 41, No. 1 (1997): 1-32.

<sup>15</sup> "Political Agreement" will be used in this thesis as an umbrella term to describe an institution such as a treaty, convention, protocol etc.

<sup>16</sup> Frieden, Jeffry. 1999. "Actors and Preferences in International Relations." In *Strategic Choices in International Relations*, edited by Lake, David A. and Powell, Robert, 39-76. Princeton University Press.

candidate (and therefore outcome) for each voter. This same term and method can be used to rank the outcome preference of individual states.

In determining their preferred outcome, states take reciprocity into their cost-benefit analysis. When states cooperate with each other regularly, the chance of cooperative and beneficial behavior in the future increases; therefore, reciprocity of the future is dependent on the cooperation of today<sup>17</sup>. Furthermore, in a complementary writing, James Morrow emphasized how strategic settings, such as institutions or the influence of powerful actors, affect the manner and strategy in which states pursue their preferences, such as focusing on signaling one's intentions, credibility of commitment, and bargaining<sup>18</sup>.

Many have written about the scope of current international law and institutions operating in the Arctic, their efficiency, and what role they may play in the future. Currently, the Arctic lies under the parameters of the United Nations Convention of the Law of the Sea (UNCLOS), which is often referred to as the "constitution for the oceans"<sup>19</sup> with every industrial nation, except the U.S., a signatory [See Fig. 2]. UNCLOS sets guidelines for international use of the oceans pertaining to "ownership, resource exploitation, and passage rights"<sup>20</sup> and also encompasses the Commission on the Limits of Continental Shelves (CLCS) under Article 76, a formal body comprised of scientists that either recommends or rejects submissions to extend a state's delineation of their continental shelf<sup>21</sup>, a key factor in determining resource sovereignty. Currently, three Arctic states have submitted claims to extend their continental shelves to the CLCS and while

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<sup>17</sup> Keohane, Robert O. 1986. "Reciprocity in International Relations." *International Organization* 40 (1).

<sup>18</sup> Morrow, James. "The Strategic Setting of Choices: Signaling, Commitment, and Negotiation in International Politics." In *Strategic Choices in International Relations*, edited by Lake, David A. and Powell, Robert, 77-114. Princeton University Press.

<sup>19</sup> Casper, Kristin N. 2009. "Oil and Gas Development in the Arctic: Softening of Ice Demands Hardening of International Law." *49 Nat. Resources J.* 825.

<sup>20</sup> Smith, Angelle. 2010. "Note: Frozen Assets: Ownership of Arctic Mineral Rights Must Be Resolved to Prevent the Really Cold War." *41 Geo. Wash. Int'l L. Rev.* 651.

<sup>21</sup> *Ibid.*, 20.

Norway is the only state to have their submission recommended<sup>22</sup>, Denmark and Russia are currently awaiting a ruling on their conflicting submissions to push their extended continental shelves to the North Pole. Also, Canada has also stated their intention to submit their claim in 2018, which is almost certain to overlap with the submissions made by Denmark and Russia<sup>23</sup>. While the majority of authors argue for the necessity of a governing agreement in the Arctic, many disagree on the role of UNCLOS in the Arctic. Jarashow, Runnels, and Svenson argue that universal adaptation of UNCLOS is the most desirable way to resolve disputes in the Arctic<sup>24</sup>. Yet, others argue that UNCLOS is insufficient at meeting the needs of the “unique features”<sup>25</sup> of the Arctic, which will be elaborated upon later, claiming an Arctic Treaty, similar to the Antarctic Treaty System<sup>26</sup>, is the most sufficient way to keep the balance between states and to resolve future disagreements. Likewise, J. Adele Buckley writes of the necessity of the Arctic as a Nuclear Weapon Free Zone<sup>27</sup>.

However, both the subject and the literature have their own challenges and limitations. First, in line with the second tenet of structural realism, is it impossible to truly know a state’s genuine intentions<sup>28</sup>. For example, Russia claims their interest in the Arctic is economic and their military buildup is for the protection of these economic interests and is therefore inoffensive<sup>29</sup>; nevertheless, it is accompanied by a unilateral military build-up in stark comparison to the other

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<sup>22</sup> Their submission based around three areas in the northeast Atlantic and in the Arctic. Their claims do not conflict with any other existing state claims.

<sup>23</sup> The Arctic Institute. 2017. “Continental Shelf Claims.” June 27, 2017.

<sup>24</sup> Mark Jarashow, Michael B. Runnels, Tait Svenson. “UNCLOS and the Arctic: The Path of Least Resistance.” *30 Fordham International Law Journal* 1587 (2006): 1-68.

<sup>25</sup> Molly Watson. “An Arctic Treaty: A Solution to the International Dispute Over the Polar Region.” *14 Ocean & Coastal Law Journal* 307. (2009): 1-12.

<sup>26</sup> *Ibid.*, 25

<sup>27</sup> J. Adele Buckley. “An Arctic Nuclear-Weapon-Free-Zone: Circumpolar Non-Nuclear Weapons States Must Originate Negotiations.” *22 Michigan State Journal of Law* 167. (2013): 1-10.

<sup>28</sup> John J. Mearsheimer, “Structural Realism.” In *International Relations Theories*, ed. Tim Dunne, Milja Kurki, and Steve Smith. (Oxford: Oxford University Press, 2013), 77-93.

<sup>29</sup> Russian Federation. 2009. “*Foundations of the Russian Federation’s State Policy in the Arctic until 2020 and Beyond*”.

Arctic states' limited military influence in the region. While Russia's militarization may solely be to protect its economic interests, in light of their less-than-honest actions in Crimea in 2014 and their recent meddling in western domestic political affairs, there is potential for Russia's stated defensive intentions to shift over time if they feel their interests are threatened. This has hurt the literature about the subject since most of assumptions about intentions stem from each state's identified goals declared in government publications and statements such as Russia's *Russian Federation Policy for the Arctic to 2020*.

Second, UNCLOS currently provides an avenue for non-state actors to become involved in the Arctic. China has already begun to build a new class of state-of-the-art icebreakers and is one of thirteen observer states on the Arctic Council. No clear plan exists for how to deal with these non-Arctic states as of now; ergo, this paper will focus solely on the five Arctic coastal states. Yet another challenge is the role of NATO in the Arctic. As stated, four of the five Arctic coastal states are members of NATO, with the fifth of course being Russia and while NATO has not stated any significant plans to grow its current capacity in the Arctic, its role cannot be ignored, especially in the context of NATO-Russia relations after the 2014 annexation of Crimea<sup>30</sup>. Despite these challenges, the current literature provides a reliable starting point for further analysis of this situation. The analysis of previous literature has focused on how structural realism views institutions as a reflection of power of the states that created it, UNCLOS's lack of pungency and efficiency in terms of Arctic governance, and the organization of individual state preferences and strategies into preference schedules to create a common foundation for a political agreement.

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<sup>30</sup> While the Role of NATO in the Arctic is not the focus of this paper, it is an area which deserves further research and analysis.

## **Methodology**

This research aims to act within the theory of structural realism to prevent further Russian aggression and economic accumulation in the Arctic via a succinct political agreement focused on the states' shared interests of resource sovereignty, continued cooperation and peaceful operations, and a rhetorical argument based on environmental sustainability. After an explanation of relevant background information, two methods will be used to advance this political agreement: the creation of preferences schedules for each of the Arctic Five and two case studies analyzing the third iteration of UNCLOS and the Antarctica Treaty System (ATS) to create a framework for the political agreement.

By relying on observance and deduction through the analysis of all relevant government publications, statements, and documents pertaining to current disputes in the Arctic, one can ascertain the order of outcome preference of each state. By creating preference schedules through ordering the outcomes by most desirable preference to least desirable preference for each state and then comparing them, one can determine the common interests between the Arctic Five and use them as a foundation for a political agreement.

The utilization of structural realism allows certain advantages in this positive analysis. First, structural realism is parsimonious<sup>31</sup>, with the only true variable being the structure of the international system, allowing a simple analysis in terms of the primary overall outcome preference. Second, structural realism's first tenet designates the states as the primary actors in the anarchic international system, further streamlining the analysis by ensuring the irrelevance of domestic politics as a driving factor of state behavior. Lastly, while liberal institutionalism emphasizes the use of international agreements in collective action, structural realists argue that international institutions reflect the interests of the most powerful states. Therefore, institutions

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<sup>31</sup> Ibid., 10.

are consequential since states use their power sustained in these institutions to achieve their interests. In this way, the four other Arctic states, especially the hegemonic U.S., can advocate their interests in this political agreement more effectively by asserting their relative power and endeavor to inhibit Russia.

## **Case Study**

### *Background*

Warming at twice the rate as the rest of the planet, the Arctic has seen a 13% reduction of its sea ice extent levels in every decade, according to NASA<sup>32</sup>. Furthermore, scientists detail that if this trend continues, then the Arctic could be ice-free in the summer by the 2050<sup>33</sup>. Consequently, the melting ice will reveal new economic opportunities including new shipping lanes, tourism, and an astounding amount of untapped natural resources. As the ice melts, it reveals significant economic opportunity for the Arctic Five, but especially for Russia. First, the melting Arctic ice opens new shipping lanes in the Arctic Ocean, most notably the Northwest Passage (NWP) in Canada and the Northern Sea Route (NSR) along Russia's northern coast, both of which decrease the cost of shipping between Europe and Asia [See Fig. 3]. The NWP will save roughly 4,860 nautical miles of distance between Europe and Asia by bypassing the Panama Canal<sup>34</sup>. Likewise, Russia places high priority on the NSR which could transport goods between Europe and Asia in as little as 35 days, cutting a third of the distance while slashing emissions costs, time, and avoiding the dangerously pirated Strait of Malacca<sup>35</sup>.

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<sup>32</sup> National Snow and Ice Data Center, National Aeronautics and Space Administration. 2018. "Arctic Sea Ice Minimum." Global Climate Change: Vital Signs of the Planet. 2018. <https://climate.nasa.gov/vital-signs/arctic-sea-ice>.

<sup>33</sup> "Arctic Report Card 2016." NOAA. November 2016. Accessed December 12, 2017.

<sup>34</sup> Geiselhart, Michael T. 2014. "The Course Forward for Arctic Governance," 13 Wash. U. Global Stud. L. Rev. 155.

<sup>35</sup> Ibid., 5

Second and perhaps most significant, the Arctic is home to a number of living and non-living natural resources, including the aforementioned reserves of oil and both liquid and gaseous natural gas, in addition to fisheries, gold, diamonds, copper, coal, and uranium inter alia. Experts estimate the resources are worth trillions<sup>36</sup>, demonstrated by the estimated worth of oil in the U.S. Arctic territory in Alaska which alone amounts to over \$1 trillion<sup>37</sup>. Remarkably, the Arctic has an estimated 13% of the world's undiscovered oil; however, natural gas is thought to be three times as abundant as oil since 30% of the world's undiscovered natural gas and 20% of its undiscovered natural gas liquids are thought to lie beneath the ocean floor<sup>38</sup>. All in all, the Arctic is estimated to contain 22% of the world's untapped<sup>39</sup>, yet recoverable, oil and gas resources<sup>40</sup> [See Fig. 4]. This anticipation of economic opportunity and energy resources creates a strong incentive for the Arctic Five to claim as much of the territory for themselves as possible. Considering current global anxiety that plagues the energy industry regarding the availability and use of non-renewable resources, these behemoth energy reserves are why many analysts name the Arctic as a future geopolitical hotspot.

Conspicuously, Russia, with an Arctic coastline over 10,000 miles<sup>41</sup>, has sought to expand their military influence in their Arctic sector and has engaged in the reinvigoration of their Arctic forces. Prominently, Russia's Arctic militarization is in stark contrast to the other Arctic states as shown by amount of military capital Russia has employed in the Arctic in comparison to the U.S.,

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<sup>36</sup> Ibid.

<sup>37</sup> Ibid.

<sup>38</sup> U.S. Geological Survey. 2008. "Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle." Fact Sheet.

<sup>39</sup> Ibid., 38

<sup>40</sup> Gautier, Donald L., Kenneth J. Bird, Ronald R. Charpentier, Arthur Grantz, David W. Houseknecht, Timothy R. Klett, Thomas E. Moore, et al. 2009. "Assessment of Undiscovered Oil and Gas in the Arctic." *Science* 324 (5931):1175–79. <https://doi.org/10.1126/science.1169467>.; Jørgensen-Dahl, Arnfinn. 2010. "Arctic Oil and Gas." CHNL.

<sup>41</sup> Bonikowsky, Laura. 2012. "The Arctic, Country by Country." *Diplomat & International Canada*. October 4, 2012. <http://diplomatonline.com/mag/2012/10/the-Arctic-country-by-country/>.

the most militarily powerful nation in the world<sup>42</sup>. , Russia currently has eighteen known operational bases in the Arctic Circle, including “a new Arctic command, four new Arctic brigades, fourteen operational airfields, sixteen deep water ports”<sup>43</sup> in addition to an array of refurbished radar stations, and numerous S-400 defensive missiles<sup>44</sup> [See Fig. 5]. Moreover, Russia has engaged in a series of military exercises in the Arctic including a SNAP<sup>45</sup> military exercise with 45000 troops, 3400 military vehicles, 41 ships, 15 submarines, and 110 aircraft<sup>46</sup>. Russia’s Northern Fleet, their largest naval fleet, heavily utilizes their 32 nuclear submarines, especially their nine nuclear-powered ballistic missile submarines (SSBNs)<sup>47</sup>; and it shows, with their Arctic submarine activity having increased by 50% from 2013 to 2015<sup>48</sup>. In addition to the submarines, they possess 40 icebreakers, three of which are nuclear powered, with 13 more under construction<sup>49</sup>. To put this in perspective, even though the U.S. Coast Guard has announced the intention to build a couple of new heavy icebreakers<sup>50</sup>, currently the U.S. Coast Guard has three icebreakers total—one of which is broken as of the date of this writing<sup>51</sup>. While Russia has signaled their intentions in the Arctic are to reinforce their defenses to protect future economic endeavors

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<sup>42</sup> Global Fire Power. 2017. “2017 Military Strength Ranking.”

<sup>43</sup> Sullivan, Dan. 2017. *Confirmation Hearing on the Expected Nomination of Mr. James N. Mattis to Be Secretary of Defense*. Washington, D.C.: Alderson Court Reporting.

<sup>44</sup> Digital Forensics Research Lab. 2017. “#MeanwhileInTheArctic: Russia’s Northern Fleet Gets an Upgrade.” *Medium* (blog). August 11, 2017. <https://medium.com/dfrlab/meanwhileintheArctic-russias-northern-fleet-gets-an-upgrade-5404fc505ead>.

<sup>45</sup> SNAP military exercises are used to test combat readiness and the Western response to Russian troop movements.

<sup>46</sup> *Ibid.*, 43

<sup>47</sup> Klimenko, Ekaterina. 2016. *Russia’s Arctic Security Policy: Still Quiet in the High North?* SIPRI Policy Paper 45. Stockholm: SIPRI.

<sup>48</sup> Nilsen, Thomas. 2015. “Arctic, Barents Submarine Patrols up to 50 Percent over Last Year.” *The Independent Barents Observer*, April 14, 2015.

<sup>49</sup> *Ibid.*, 43

<sup>50</sup> Eckstein, Megan. 2017. “Coast Guard Releases Heavy Icebreaker Draft Request for Proposals.” *USNI News* (blog). October 19, 2017.

<sup>51</sup> National Academies of Sciences, Engineering, and Medicine. 2017. “Acquisition and Operation of Polar Icebreakers: Fulfilling the Nation’s Needs.”



rather than malicious military intent<sup>52</sup>, their actions instigate a potential security dilemma between Russia and the other four Arctic coastal states, especially as resource extraction grows more viable.

As the ice continues to melt, the value and geopolitical importance of the Arctic increases. As the extraction of trillions of dollars in natural resources becoming more feasible, the salience of the Arctic has increased in the international community, exemplified by fact that the twelve of the thirteen observer states in the Arctic Council rank among the top 25 nations with the highest GDP in the world<sup>53</sup>. Cooperation, the current standard in the Arctic, is achieved through diplomacy through the Arctic Council to work out problems, demonstrated by the multilateral coordinated search and rescue zones created in 2011<sup>54</sup> [See Fig. 6]. In September 1996, the eight Arctic states formed the Arctic Council, an inter-governmental forum to facilitate cooperation and sustainability while allowing indigenous persons and non-Arctic states to be observers<sup>55</sup>. Additionally, the Arctic Five signed the *Ilulissat Declaration* in 2008, affirming the states' unique position to meeting the specific challenges of the Arctic and reaffirming their commitment to UNCLOS as the governing doctrine of the Arctic<sup>56</sup>. The U.S. is not a signatory of UNCLOS; however, due to *opinio juris* and analogous state practice, the treaty is considered customary international law<sup>57</sup> meaning U.S. legal code is obliged to adhere to it. There are concerns about the effectiveness of UNCLOS when dealing with challenges singular to the Arctic. Additionally, as with most international institutions, state concern over sovereignty mitigates the treaty's value in its most salient area to the Arctic, continental shelf delineation, as the CLCS lacks an enforcement mechanism and contains an opt-

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<sup>52</sup> Ibid., 29

<sup>53</sup> The thirteen non-Arctic states are: France, Germany, Italy, Japan, Netherlands, China, Poland, India, South Korea, Singapore, Spain, Switzerland, and the United Kingdom. ; "GDP (Current US\$) | Data." n.d. Accessed December 13, 2017.

<sup>54</sup> Arctic Council. 2011. "Search and Rescue in the Arctic - Arctic Council." June 11, 2011.

<sup>55</sup> Richwalder, Mathew. 2017. "Article: The Arctic Council: Twenty Years in the Making and Moving Forward." 22 *Ocean and Coastal Law Journal* 22, February.

<sup>56</sup> Arctic Council. 2008. "Ilulissat\_Declaration.Pdf." May 2008.

<sup>57</sup> Shaw, Malcolm N. "Customary International Law." *Cornell Legal Information Institute*. 2003.

out clause<sup>58</sup>. With Russia engaging in military activity outside of its 200-mile sovereign boundary, or EEZ, a question persists: how can the UNCLOS, and its relevant bodies such as the CLCS, curtail Russian aggression when the treaty has no power to enforce its rulings?

### **Interests**

Through careful analysis and ranking the outcome preferences of the Arctic Five, one can establish a foundation upon which a political agreement can be built. Furthermore, analysis and ranking of interests can provide knowledge of how the U.S. can entice or motivate states that are dragging their feet into joining the agreement through specific protections, benefits, or leverage points. However, first it is necessary to distinguish between a preference, “the way an actor orders the possible outcomes of an interaction”<sup>59</sup>, and a strategy, which is the means to achieve this outcome<sup>60</sup>. In other words, a preference is the end and the strategy is the means to this end. As a reminder, these preferences are ordered from most crucial to least crucial preference of outcome. The overall common preferences of the Arctic Five will be described, followed by an individual country analysis of the specifics of their strategy.

### *Overall*

Analysis of each states’ preference schedule revealed three common preferred outcomes which will be used to construct the basis of the treaty: resource sovereignty and accumulation, continued peaceful cooperation, and environmental sustainability.

Keeping in line with the central theme of structural realism, each state aims to ensure its survival by accumulating power through amassing economic and military capabilities.

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<sup>58</sup> Mendez, Tessa. “Think Ice, Shifting Geopolitics: The Legal Implications of Arctic Ice Melt.” *38 Denver Journal of International Law and Policy* 527. (2010): 1-12.

<sup>59</sup> *Ibid.*, 16

<sup>60</sup> *Ibid.*

Accordingly, every state's first and fundamental outcome preference is the unhindered accumulation of economic resources, mainly the year-long operation of new shipping lanes and the extraction of natural resources. While each of the Arctic Five's specific economic strategies differ marginally, each of the Arctic Five affirms that the accumulation of economic power, in the broad sense, is a high priority in each Arctic policy statement released by the Arctic Five governments.

What is more, every state also specifies peaceful cooperation as essential to operations, both business and otherwise, in the High North. While this seems more of a strategy, it is a comment on the preferred long-run outcome of the Arctic in the sense that the states prefer the Arctic to be a reliable zone of cooperation in the long run, instead of an environment marked by conflictual mentalities. Indeed, this trend can be exemplified by the creation of the Arctic Council which was created to help facilitate cooperation and coordination in the High North. By extension, this paper's argument rests on the assumption that the Arctic Five would rather create a political agreement governing norms of peaceful cooperation and coordination, resource extraction, and environmental sustainability than to engage in military conflict over resources and competing territorial claims in the Arctic region, especially considering the physical realities of warfare in the Arctic. Besides the obvious detrimental effects of war on domestic morale, native populace, crucial infrastructure, and the national and world economies, the austerity of the Arctic climate makes conflict costly and a logistical nightmare in the High North<sup>61</sup>. The frigid temperatures require specialized cold-weather equipment and vehicles since the freezing conditions can be detrimental to ships and aircraft by producing icing on the deck, mounted machinery, antennae, and combat

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<sup>61</sup> Headquarters of the Department of the Army. 2016. "ATP 3-90.97: Mountain Warfare and Cold Weather Operations." Department of the Army.

systems, especially when in conjunction with storms or blizzards<sup>62</sup>. Additionally, while many aircraft in the region have additional anti-icing equipment, “clouds, fog, heavy rain, and snow” are an impediment for aircraft in their support capacity<sup>63</sup>. As previously stated, in structural realism the goal of each state is to survive; as a result, another of the Arctic Five’s principle preference is to avoid war and conflict by ensuring the Arctic Circle is a region of peace and cooperation, especially considering the difficulties of military operations in the grim Arctic climate.

Hence, it is preferable to preserve or even deepen these norms of cooperation. Reciprocity in particular will perform an important role in the political agreement through joint military, search and rescue, and disaster preparedness exercises. Military and disaster management exercises, for example past coast guard maneuvers between Norway and Russia<sup>64</sup>, have breed cooperation and coordination between countries<sup>65</sup>. Behavior of the future is a function of the behavior of the past. The more Russia relies on the Arctic Five for important functions such as search and rescue and information sharing about drug trafficking and crime, the more leverage the other states can use to incentivize Russia to cooperate in the political agreement. On a related note, continued scientific research, especially research pertaining to continental shelves or the seabed, is another shared objective of every state. The importance of international cooperative research, chiefly in relation to the continental shelves, to this political agreement will be addressed later.

In a similar fashion, every state also names the environmental sustainability of the Arctic as an important interest in their national policies. Nevertheless, while environmental sustainability is certainly a notable, if not necessary, concern to these states, the environment will no doubt take

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<sup>62</sup> Surface Ship Survivability Office, and Chief of Naval Operations. 1988. “U. S. Navy Cold Weather Handbook for Surface Ships.” OP-03C2.

<sup>63</sup> Ibid., 59

<sup>64</sup> Pettersen, Trude. 2016. “Norway, Russia Continue Coast Guard Cooperation.” The Independent Barents Observer. January 26, 2016..

<sup>65</sup> Arctic Ocean Conference. 2008. “2008 Ilulissat Declaration.”

a back seat to the Arctic Five's more pressing interests of economic power, territoriality, and resource extraction. Therefore, even though this paper will use this common interest of environmental sustainability as a rhetorical tool to inhibit Russia when creating this political agreement, it decidedly falls beneath the potential economic gains and security components of the Arctic on each state's preference schedule, and therefore will not be discussed individually in each state.

Overall, though their primary outcome preference is the same, accumulation of economic capabilities, the following sections will detail each of the Arctic Five's specific economic goals in the Arctic in order to identify both common ground and where potential concessions and leverage points could be made.

### *Russia*

Given their current overwhelming military presence in the Arctic, Russia's accumulation of power pivots to the new economic opportunities in the High North, namely the extraction of natural resources and the multi-seasonal use of the Northern Sea Route. Russia's Arctic resource grab is best understood in the context of President Vladimir Putin's crusade to project Russia as a global power and assert its influence in the international system. Russia and Putin aim to cultivate international economic and geographic power through unfettered access to Arctic resources and shipping lanes. This partly exemplifies the importance of oil and gas to the Russian economy, which can be boiled down to two motives: their overwhelming economic dependence on oil and gas as an export and their ability to use oil and gas as a policy tool to assert Russia's influence on the world stage.

In August 2007, Russia placed a Russian flag under the North Pole and claimed the Arctic as its own, creating international consternation even though Russia admitted it was a purely

symbolic act<sup>66</sup>. Russia has supported Sector Theory in the Arctic, first put forth by Canada, which creates sovereign sectors for each Arctic state demarcated by the longitude running from east and west coast to the North Pole<sup>67</sup>. This jurisdictional theory depends on the stipulation that the Arctic Ocean is somehow exceptional in international law and therefore holds no weight in this paper.

As stated in *Foundations of the Russian Federation's State Policy in the Arctic until 2020 and Beyond*<sup>68</sup> Russia plans to use the Arctic as a “strategic resource base”<sup>69</sup>. Russia, the second largest producer of natural gas in world after the U.S., is also the largest oil producer and the third largest energy consumer in the world as of 2016<sup>70</sup>. Increasingly, Putin has consolidated the Russian energy sector, bringing it under federal control through state-run companies such as *Gazprom* and *Transneft*. Notably, Putin frequently uses the state-owned energy industry as a form of political patronage to prop up the elite Russian autocrats<sup>71</sup>. What is more, for the past two decades, oil and gas exports have been a staple of the Russian domestic industry with oil and gas comprising 59% of Russia's total export revenue in 2015, amounting to about 8.8% of their total GDP<sup>72</sup>. Nevertheless, according to Russia's own Minister of Natural Resources and Environment Sergei Donskoy, Russia is projected to run out of their tapped oil sources by 2044<sup>73</sup>. Given this alarming information, Russia will be highly dependent on access to Arctic oil and gas reserves because of its essential role to Russian industry and domestic economy.

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<sup>66</sup> Chivers, C.J. 2007. “Russians Plant Flag on the Arctic Seabed.” *The New York Times*, August 3, 2007.

<sup>67</sup> *Ibid.*, 25

<sup>68</sup> Henceforth referred to as “Russia's Arctic Policy to 2020”

<sup>69</sup> *Ibid.*, 29

<sup>70</sup> Central Intelligence Agency. 2015. “COUNTRY COMPARISON: NATURAL GAS - PRODUCTION.” *The World Factbook* — Central Intelligence Agency. 2015.

<sup>71</sup> Lazko, E. and A. Nesterenko (2012) “An Overview of the Oil and Gas Sector in the Russian Federation – 2012,” *Hydrocarbon World*, 7: 1, pp. 12-14

<sup>72</sup> “Products Exported by Russia (2015).” n.d. The Observatory of Economic Complexity. Accessed December 13, 2017. [http://atlas.media.mit.edu/en/visualize/tree\\_map/hs92/export/rus/all/show/2015/](http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/rus/all/show/2015/).

<sup>73</sup> Berezina, Elena. 2016. “Is there life without oil.” *Rossiyskaya Gazeta*, March 16, 2016, sec. Economy.

What is more, oil and gas allow Russia a certain influence over Europe. This influence is especially crucial in the context of strained EU-Russian tensions over Russian political influence in EU states and the Crimean Crisis, considering about 70% of Russian crude oil exports go to Europe<sup>74</sup> and about 40% of gas giant *Gazprom's* exports go to Western Europe<sup>75</sup> [See Fig. 7]. Russia has used this dependence against neighboring states before when they cut off Ukraine's gas supply from January 13<sup>th</sup> to January 17<sup>th</sup> after the Orange Revolution in 2009, effectively freezing the Ukrainians out<sup>76</sup>. Despite this threat, Russia heavily relies on the Europe for its exports market since oil and gas revenues make up 75% of Russia's total exports and 52% of its federal budget<sup>77</sup>. Additionally, in order to do business Russia needs access to the international financial market in order to make exchanges in dollars and for its oil companies to use the bond market<sup>78</sup>, meaning the EU and the US have some leverage against Russia considering the West's financial markets have the potential to severely damage Russian oil companies if they were to be delisted on western stock exchanges<sup>79</sup>.

The importance of Russia's CLCS submission under Article 76 of UNCLOS to the Kremlin further demonstrates the prominence of oil and gas in Russia. A more detailed description of the legal ambiguity and shortcomings of the CLCS will be discussed shortly, but currently Russia, Canada, and Denmark (via Greenland) have submitted, or are going to submit, conflicting claims to CLCS to extend their continental shelf to include the North Pole [See Fig. 8]. First submitted in

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<sup>74</sup> U.S. Energy Information Administration. 2017. "Russia Exports Most of Its Crude Oil Production, Mainly to Europe - Today in Energy." EIA Independent Statistics and Analysis. November 14, 2017.

<sup>75</sup> Gazprom. 2017. "Gazprom Export." 2017.

<sup>76</sup> Flake, Lincoln Edson. 2014. "Russia's Security Intentions in a Melting Arctic" 6 (1): 18.

<sup>77</sup> U.S. Energy Information Administration. 2017. "Russia - International - Analysis - U.S. Energy Information Administration (EIA)." October 31, 2017.

<sup>78</sup> The Economist. 2014. "Conscious Uncoupling." *The Economist*, April 5, 2014.

<sup>79</sup> Ibid.

late 2001, the CLCS first denied Russia's claim, requesting more scientific evidence<sup>80</sup>. Since then, Russia has focused on their extended continental shelf claim to the Lomonosov Ridge and the Mendeleev Ridge, two underwater mountain chains leading down the middle of the Arctic Basin, which Russia claims extends from the Eurasian continent. With potentially trillions of dollars of resources on the line, Russia has been taking steps to verify their extended continental shelf claim by funding research to study the ocean floor, submitting an updated second claim in 2015, asserting their ownership of even more features such the Chukchi Rise and Basin<sup>81</sup> [See Fig. 9]. While Canada has only announced its intention to submit an extended continental shelf claim to the North Pole<sup>82</sup>, Denmark submitted a claim in 2014 that extends 895,000 km<sup>2</sup> from Greenland's northern coast, through the North Pole, to the boundary of Russia's EEZ<sup>83</sup>. Even in the face of conflictual territorial claims, Russian government documents have repeatedly stated the commitment to work through international law and institutions to resolve the dispute.

Despite the potential wealth north of their shores, the U.S., Canada, Norway, and Denmark have not implemented any aggressive militarization policies in response to Russian aggression. Therefore, the question is, is it really in Russia's interest to cooperate since they clearly have the upper hand in terms of military power in the Arctic? Admittedly, Russia's actions in the Arctic appear ominous at first glance, especially considering some of their dubious actions of the past decade. However, Russia's military buildup can be explained in two respects. First, as declared in the two most relevant and important releases from the Russian government about Arctic policy,

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<sup>80</sup> Korger, Nick. 2017. "Article: Going Boldly Where No Country Has Gone Before: UNCLOS and the Russian Federation's Claim to the Arctic Circle." *34 Wis. Int'l L.J.* 731.

<sup>81</sup> Ibid.

<sup>82</sup> Expected sometime in 2018; International, Radio Canada. 2016. "Canada to Submit Its Arctic Continental Shelf Claim in 2018." *RCI / English* (blog). May 3, 2016.

<sup>83</sup> The Kingdom of Denmark. 2015. "Commission on the Limits of the Continental Shelf (CLCS): Outer Limits of the Continental Shelf beyond 200 Nautical Miles from the Baselines: Submissions to the Commission: Submission by the Kingdom of Denmark." November 2, 2015.



Russia has always claimed their Arctic militarization to be a function of strategic deterrence and ensuring Russia's sovereign economic rights in the Arctic<sup>84,85</sup>. Furthermore, Russia has continuously been a proponent of cooperation and institutions in the Arctic, as shown through their commitment to UNCLOS and the CLCS, the *Ilulissat* Declaration of 2008, and the resolution of a 40-year dispute in the Barents Sea between Russia and Norway in 2010<sup>86</sup>. Furthermore, former Russian Minister of Foreign Affairs Sergey Lavrov stated that all issues in the Arctic "can be tackled solely on the basis of international law"<sup>87</sup>.

Second, this military build-up can be explained in the context of the overall modernization of the Russian military, their future plans to expand their oil and gas infrastructure into the Arctic, and the need to protect their infrastructure and waters from pirating, terrorism, and other threats. Starting in the late 2000s, Russia launched an ambitious State Rearmament Programme known as GPV-2020 in which Russia aims to achieve 70% modernization of the Russian military by 2020, planning to spend a total of \$723 billion by that same time<sup>88</sup>. To be sure, when their actions are analyzed in the broader context of Russian security policy, their actions in the Arctic are in-line with a nation trying to proportionally increase their relative capabilities of the military overall—not in just one specific geographic area. From a historical perspective, Lincoln E. Flake reasons that Russia's buildup in the Arctic is path-dependent in light of their security culture which is dominated by Russian paranoia and realist tendencies<sup>89</sup>. During the Cold War, Russian aircraft and

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<sup>84</sup> Russian Government. 2013. "Strategy for the Development of the Arctic Zone of the Russian Federation and National Security Efforts for the Period up to 2020."

<sup>85</sup> *Ibid.*, 29

<sup>86</sup> Gibbs, Walter. 2010. "Russia and Norway Reach Accord on Barents Sea." *The New York Times*, April 27, 2010, sec. Europe.

<sup>87</sup> Ministry of Foreign Affairs of the Russian Federation. n.d. "Transcript of Remarks and Replies to Media Questions by Russian Minister of Foreign Affairs Sergey Lavrov Following His Participation in the 14th Session of the ASEAN Regional Forum on Security, Manila, Philippines, August 2, 2007." Foreign Policy. Accessed March 29, 2018..

<sup>88</sup> Flake, Lincoln E. "Forecasting Conflict in the Arctic: The Historical Context of Russia's Security Intentions." *The Journal of Slavic Military Studies*, Vol. 28, No. 1. (2015): 72-98

<sup>89</sup> *Ibid.*

submarines patrolled the Arctic with the aid of radar installations. However, after the Cold War ended, the defense budget fell from 23% to 9% of GDP in the 1990s<sup>90</sup>, leading to near abandonment of Cold War Arctic patrols due to cuts in troop levels and budgets. Arctic militarization has increased at the same rate since 2008, when Russia pivoted to focus on Arctic security and overall military modernization. Cooperation will help to solve security dilemma by increasing trust of each other through reciprocity and the sharing of information.

Third, in “Russia’s Arctic Policy to 2020”, the Russian government states its commitment to the “sphere of ecological protection, the preservation and protection of the natural ecosystem of the Arctic, and the mitigation of the ecological consequences of increased economic activity and global climate change”.

<b>Table 1: Russia’s Arctic Preference Schedule</b>
1. Accumulation of oil, gas, and other natural resources in the Arctic <ul style="list-style-type: none"> <li>a. NSR</li> <li>b. CLCS Submission to Extend their Continental Shelf</li> </ul>
2. Defense of National Borders
3. Solidification of Peaceful Cooperation in the Arctic
4. Environmental Sustainability

*U.S.*

Overall, the U.S. role in the Arctic is minimal, especially considering the scope of its Arctic coastline compared to its two neighbors, Russia and Canada. Despite the undersized Alaskan

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<sup>90</sup> Ibid., 88

coastline, the U.S. stands to gain from this political agreement economically. Alaska, situated across the Bering Strait to Russia and adjacent to Canada, allows the U.S. access to resources in the Bering Sea, Chukchi Sea, and Beaufort Sea<sup>91</sup>. The U.S. State Department lists “meeting U.S. national security interests” as its top priority in the Arctic<sup>92</sup>, in line with structural realism; which, in this context, will mean both military renovation of the U.S.’s Arctic forces in response to Russia and the preparation for future economic development to accumulate economic resources. As laid out in a U.S. Department of Defense (DoD) report from 2017 on U.S. national security interests in the Arctic, the “desired end-state for the Arctic [is] a secure and stable region where U.S. national security interests are safeguarded, the U.S. homeland is defended, and nations work cooperatively to address challenges”<sup>93</sup>. In the context of Russia’s aggressive pursuit to defend its economic interests, this first means the U.S. should focus on strengthening their Arctic capabilities and strengthening regional cooperation. The USGS estimates approximately 25 billion of the estimated 90 billion barrels of oil in Arctic lie in the Alaskan Basin<sup>94</sup>, a substantial portion of which lines within the U.S.’s EEZ. Significantly, this blessing of location has allowed the U.S. to control over an estimated 27% of the oil in the entire Arctic Circle<sup>95</sup>, especially considering the puny 1,060 miles of Alaskan coastline compared to that of Russia at 15,000 miles or Canada’s maze of islands at 182,000 miles<sup>96</sup>.

Another important interest enumerated in the DoD report is the U.S.’s interest to “strengthen partnerships with Arctic allies and partners” in order to “shape military activity in the Arctic region to avoid conflict while improving its capability to operate safely and sustain

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<sup>91</sup> Ibid., 25

<sup>92</sup> U.S. State Department. 2018. “Arctic.” 2018.

<sup>93</sup> Department of Defense. 2016. “Report to Congress on Strategy to Protect United States National Security Interests in the Arctic Region.”

<sup>94</sup> Ibid., 80

<sup>95</sup> Ibid., 38

<sup>96</sup> Ibid., 40

forces”<sup>97</sup>. Thus, an Arctic political agreement constraining Russia is clearly within the bounds of U.S. interests. In particular, the DoD Report advises the U.S. to increase regional cooperation through regional partnering and collaboration on search and rescue and emergency management and military-to-military engagements<sup>98</sup>.

Climate change has significant implications for the U.S. military including increased conflict in less stable regions of the world, rising sea levels, and its negative effects on US naval bases, and an increased frequency of extreme weather<sup>99</sup>. In 2017, the U.S. Government Accountability Office (GAO) released a report stating that the overall U.S. military is woefully underprepared for the effects that will accompany climate change<sup>100</sup>. The looming threat of climate change against U.S. military infrastructure must be considered in every situation, especially since the U.S. is at risk of losing roughly \$100 billion from damage to naval bases due to three-foot sea level rise by 2050<sup>101</sup>. In this context, the U.S. needs to adjust their Arctic forces and infrastructure to avoid the pitfalls of climate change. The International Security Advisory Board’s Report on Arctic Policy stated, “This rate of climate change is significantly faster than had been expected earlier in the decade, making the demands to mitigate and prepare for the catastrophic effects of climate change increasingly urgent.”<sup>102</sup>

**Table 2:** United States Arctic Preference Schedule

1. Safeguard U.S. national security interests
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<sup>97</sup> Ibid., 93

<sup>98</sup> Ibid.

<sup>99</sup> 128 Bases are at risk

<sup>100</sup> U. S. Government Accountability Office. 2017. “Climate Change Adaptation: DOD Needs to Better Incorporate Adaptation into Planning and Collaboration at Overseas Installations,” no. GAO-18-206 (December).

<sup>101</sup> Myers, Meghann. 2016. “Rising Oceans Threaten to Submerge 128 Military Bases: Report.” Navy Times. July 29, 2016.

<sup>102</sup> United States Department of State. 2016. “International Security Advisory Board: Report on Arctic Policy.”

<ul style="list-style-type: none"> <li>a. Revamping Arctic Forces</li> <li>b. Continued extraction of natural resources</li> </ul>
2. “Strengthen partnerships with Arctic allies and partners”
3. Environmental Sustainability

### *Canada*

The Arctic is a cornerstone of Canadian identity, encompassing the majority of the Arctic Archipelago and holds weighty importance to Canada’s indigenous population. In 2010, then Prime Minister Stephen Harper stated that protection of Canadian sovereignty in their northern regions was the most essential interest to Canada in the High North<sup>103</sup>. Accordingly, this means the protection and verification Canada’s boundary and territorial interests, namely the Northwest Passage (NWP) and the extension of its continental shelf. Canada needs their claims to be recognized under international law in order to legally cultivate these economic interests.

The NWP has become a matter of extreme importance to Canada, which claims the strait is comprised of internal national waters based on historical evidence of indigenous use and the Nunavut Land Claims Agreement<sup>104</sup>. In fact, Canada’s House of Commons passed a bill renaming the NWP to the “Canadian Northwest Passage” in 2009<sup>105</sup>. Yet, the U.S., the E.U., and Russia all reiterate that the NWP is an international strait; however, this disagreement appears to be a non-issue since Canada has indicated its support for international shipping contingent on appropriate state behavior in regard to Canadian regulations of the passage<sup>106</sup>. Similar to Russia, the

<sup>103</sup> CBC News. 2009. “Arctic of ‘strategic Importance’ to Canada: PM.” CBC. August 19, 2009.

<sup>104</sup> Ibid., 25

<sup>105</sup> Petterson, Trude. 2009. “Canada Renames Northwest Passage.” Barents Observer. December 4, 2009.

<sup>106</sup> Ibid., 25

availability of NWP, first operable in 2007, will be a windfall to the Canadian economy since the route is 20% shorter to Europe than the Panama Canal route, a route which can cost a large container ship up to \$800,000<sup>107</sup>, cutting time and costs from Asian markets to European consumers and vice versa<sup>108</sup>. However, an ice-free NWP also exposes Canada to new dangers from the coast, particularly illegal transportation of drugs and contraband, a fact that has not gone unnoticed by the Canadian government<sup>109</sup>. Since this will require more patrolling and coast guard involvement in the Arctic, it is a hopeful sign that Canada would be open to international cooperation regarding these security matters. In an attempt to support Canada's future claim on natural resources, Canada has invested \$109 million into Arctic research and the mapping of the Arctic seabed to validate its future proposition on the Lomonosov Ridge before CLCS<sup>110</sup>, a claim which directly conflicts with Russia and Denmark's submissions. The importance of these claims must not be understated as whichever country can claim sovereignty over the North Pole will gain control of an immense amount of natural resources.

Additionally, the Canadian government's second most important preferred outcome is the promotion of economic and social development through accumulation of natural resources and job creation in its EEZ while the territorial claims are pending<sup>111</sup>. Canada has a robust oil industry, sixth overall in global oil production in 2016, and also boasts a burgeoning diamond mining industry, including the introduction of the world's largest diamond mine, expected to contribute \$5.2 billion to the Canadian economy and provide 1,200 jobs<sup>112</sup>. Canada's vast area and Arctic

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<sup>107</sup> Schuler, Mike. 2016. "Containership Pays Nearly \$1 Million Toll to Cross the Expanded Panama Canal." GCaptain. July 5, 2016.

<sup>108</sup> Conley, Heather, and Jamie Kraut. 2010. "U.S. Strategic Interests in the Arctic," April, 33.

<sup>109</sup> Government of Canada. 2010. "Statement on Canada's Arctic Foreign Policy: Exercising Sovereignty and Promoting Canada's Northern Strategy Abroad." 2010.

<sup>110</sup> Ibid. 106

<sup>111</sup> Ibid., 107

<sup>112</sup> DeBeers. 2016. "Executive Summary." De Beers Group Corporate Website. 2016.

coastline will allow more economic endeavors along the same vein as diamond mining considering the amount of living and non-living resources in the Arctic.

Following their commitment to the obtaining the Arctic resources and creation of jobs, Canada also states the cooperation with other nations and environmental suitability as core goals in the High North.

<b>Table 3: Canadian Arctic Preference Schedule</b>
1. Confirming territorial sovereignty over NWP in order to achieve resource extraction
2. Defense of national borders
3. Peaceful Cooperation in the Arctic
4. Environmental Sustainability

### *Norway*

This analysis of Norway should be evaluated in context to their proximity to Russia, as it is the only Arctic country which shares a border with Russia. Until recently, Russia and Norway maintained a good relationship in the Barents Sea, engaging in military and emergency disaster response exercises<sup>113</sup> and peacefully settling a 40-year border dispute in the Barents Sea<sup>114</sup>. Despite this, recent suspect Russian actions have put their western neighbor on edge, something stated in Norway's most recent *Arctic Strategy*, released in 2017<sup>115</sup>. It is in Norway's interest to be a part of this political agreement, both because of the need to prevent climate change from hurting their sea-based industry and because of the sheer proximity Russian aggression to Norwegian borders.

<sup>113</sup> Wezeman, Seimon T. 2016. "Military Capabilities in the Arctic, SIPRI Background Paper." *SIPRI Background Paper*, October, 24.

<sup>114</sup> *Ibid.*, 86

<sup>115</sup> Norwegian Ministries. 2017. "Norway's Arctic Strategy – between Geopolitics and Social Development," June.

However, Norway's main focus, like the other Arctic Five, is economic, specifically naming a focus on business development through commercial shipping, fisheries, and oil and gas extraction as their main priorities as laid out in the Norwegian Government's *New Building Blocks in the North*.

Norway views the High North as an essential part of its national identity<sup>116</sup> as well as a top domestic and foreign policy priority considering 1/3 of its landmass and 80% of its territorial seas are included in the Arctic circle<sup>117</sup>. Overall, about 64% of Norway's export revenue originates from sea-based economic activities and marine resources, including oil and gas extraction. In reality, 53% of these exports are from oil and gas<sup>118</sup>. *Statoil*, Norway's state-owned petroleum firm, is projected to make an estimated \$1.4 billion in natural gas each year for the next twenty-five years<sup>119</sup>. In 2012, Norway's Minister of Petroleum and Energy awarded 26 offshore oil production licenses in the Norwegian and Barents Sea<sup>120</sup>, both within their EEZ; additionally, *Statoil* aims to extract one million barrels a day from new wells in the Arctic by 2020. While the majority of Norway's current oil and gas originates from the North Sea, which lies south of the Arctic Circle, Norway is one of the three Arctic Five states to submit a claim to the CLCS, extending their continental shelf to 84°41' N, just short of the North Pole, exemplifying both the importance of oil and gas to the Norwegian economy and Norway's willingness to participate in international institutions.

However, oil and gas are not the only economic corollaries of a melting Arctic for Norway. Fishing is not only culturally important due to its foundational element in the oceanic culture of

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<sup>116</sup> *Ibid.*, 25

<sup>117</sup> Arctic Geopolitical Defense College, and The Norwegian Ministry of Foreign Affairs. 2017. "Geo-Politics and Geo-Economics of the Arctic Region." March 2, 2017.

<sup>118</sup> Workman, Daniel. 2018. "Norway's Top 10 Exports." *World's Top Exports*. January 12, 2018.

<sup>119</sup> Shackelford, Scott. 2009. "Article: The Tragedy of the Common Heritage of Mankind." *28 Stan. Envtl. L.J.* 109, February.

<sup>120</sup> Schiermeier, Quirin. 2012. "The Great Arctic Oil Race Begins." *Nature News* 482 (7383): 13.



Norway, but the industry is economically important as well. Yet, while fisheries make up over 11% of Norway’s total exports, second only to oil and gas exports<sup>121</sup>, it is the burgeoning aquaculture industry<sup>122</sup> that sustains ocean commerce. Despite the abundance of fish in the Arctic, climate change is rendering Norway’s fisheries uninhabitable because of ocean acidification and the increase in water temperatures in the Arctic, which will eventually force the fish to migrate north of their current habitats off the Norwegian coast<sup>123</sup>. Interestingly, the first priority mentioned in Norway’s *Arctic Strategy 2017* is environmental sustainability<sup>124</sup>. It would make sense for Norway, a nation founded upon seafarers and fisherman, to want to protect this important industry threatened by the processes of climate change<sup>125</sup>.

From a defensive standpoint, the Norwegian parliament passed the Long Term Defense Plan, which includes an increased military presence in the High North with the purpose of strengthening national defense and to extend “NATO’s ability for collective defense”<sup>126</sup>.

<b>Table 4: Norway’s Arctic Preference Schedule</b>
1. Oil and Gas Extraction
2. Defense of National Borders
3. Peaceful Cooperation in the Arctic
4. Environmental Sustainability: fisheries, aquaculture, tourism

<sup>121</sup> Atlas Media MIT. 2016. “OEC - Norway (NOR) Exports, Imports, and Trade Partners.” 2016.

<sup>122</sup> Aquaculture is “farming in water is the aquatic equivalent of agriculture or farming on land”, including the cultivation of animals and plants; Food and Agriculture Organization of the United Nations. 1998. “Definitions: Aquaculture.” *Rural Aquaculture: Overview and Framework for Country Reviews*. 1998.

<sup>123</sup> Heinrich, Luise, and Torsten Krause. 2017. “Fishing in Acid Waters: A Vulnerability Assessment of the Norwegian Fishing Industry in the Face of Increasing Ocean Acidification: Fishing in Acid Waters: The Case of Norway.” *Integrated Environmental Assessment and Management* 13 (4): 778–89. <https://doi.org/10.1002/ieam.1843>.

<sup>124</sup> *Ibid.*, 115

<sup>125</sup> *Ibid.*, 111

<sup>126</sup> Norwegian Ministry of Defence. 2016. “Long Term Defence Plan Adopted.” Redaksjonellartikkel. Government. No. November 18, 2016.

### *Denmark*

Of the Arctic Five, Denmark is the least powerful actor<sup>127</sup>. While they have been an active political actor in the region<sup>128</sup>, they are an Arctic littoral state via Greenland, firmly under Danish rule for almost 300 years despite Greenland's "home rule" in 1979<sup>129</sup>. Greenland, with its population of about 57,000 people, 80% of whom are indigenous, is of strategic value to Denmark because of its natural resources, especially oil and gas<sup>130</sup>. Additionally, Greenland allows Denmark to vie for the Lomonosov Ridge and its extravagant amount of resources as an extension of Greenland's continental shelf<sup>131</sup>, in direct conflict with both Canada's and Russia's submissions about the Arctic Basin in the CLCS. Denmark prides itself in encouraging Arctic exploration and has given substantial funds to scientific research, much of which go towards researching and mapping the sea floor in order to solidify its submission to the CLCS, much like Canada and Russia<sup>132</sup>. Not only is the extraction of resources important to their economic growth, but the developing energy industry and the ensuing infrastructure project will provide much-needed jobs to the Greenlandic economy<sup>133</sup>.

At first glance, Denmark may appear to be against the future political agreement due to their staunch support of UNCLOS as the predominant rule of law in the Arctic and their rejection of the call for a new treaty for the region<sup>134</sup>; yet, they are by far the weakest state of the Arctic Five<sup>135</sup>. In 2016, the Danish government warned commercial and tourist ships about the punishing conditions of the Arctic and the limited search and rescue assets, "implying that Danish defense

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<sup>127</sup> Ibid. 89

<sup>128</sup> They were the ones who pushed for the Ilulissat Declaration in 2008

<sup>129</sup> Ibid., 108

<sup>130</sup> The USGS Circum-Arctic Resource Appraisal (CARA) lists Greenland as potentially the 19<sup>th</sup> largest oil province

<sup>131</sup> Ibid., 83

<sup>132</sup> CITE

<sup>133</sup> The Kingdom of Denmark. 2011. "Kingdom of Denmark Strategy for the Arctic 2011-2020." 2011.

<sup>134</sup> Ibid., <sup>133</sup>

<sup>135</sup> Global Fire Power. 2017. "2017 Military Strength Ranking."

forces may not be available for emergency assistance...due to lack of assets, infrastructure, and investment”<sup>136</sup>. In light of Denmark’s limited response capacity in Greenland and of the future increased frequency of commercial and tourist travel, Denmark will need to rely on its neighbors for search and rescue support and emergency management. Therefore, per the view of institutions from structural realism, Denmark will have the least amount of influence over any of the states since institutions are a reflection of the relative power of the states.

Alongside this primary preferred outcome, Denmark also lists “a peaceful, safe, secure Arctic” as a priority interest, although they state their inclusion in NATO as a primary defensive measure<sup>137</sup>, followed by environmental sustainability.

<b>Table 5: Denmark’s Arctic Preference Schedule</b>
1. Approval of CLCS submission, allowing access to natural resources
2. “A Peaceful, Safe, Secure Arctic” <sup>138</sup> <ol style="list-style-type: none"> <li>a. Cooperation: must rely on neighbors for SAR, emergency response</li> </ol>
3. Environmental Sustainability

To summarize, each state first prioritizes the accumulation of natural resources and growth of economic activity in the Arctic in order to amass power relative to the other states. Second, each state strongly prefers peaceful cooperation to a conflict over natural resources. Third, environmental sustainability, even though it will play a rhetorical role in hampering Russia in this paper’s argument, will take a backseat to the first two priorities. Through this analysis, there is

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<sup>136</sup> Ibid., 93

<sup>137</sup> The Kingdom of Denmark’s Strategy for the Arctic 2011-2020. (2011).

<sup>138</sup> Ibid., 125

evidence to support the claim that every state, though least of all Russia, has an incentive to buy into, or at least enter into talks about, a political agreement. Russia's involvement will be dependent upon an incentive to assert their influence in the official delineation of the Arctic Ocean floor, the threat of a global commons through the international principle of Common Heritage of Mankind, and the horrific effects of climate change on the Arctic and Russia itself.

*Case Study Introduction:*

Structural realism denotes that the primary common interests are resource sovereignty in order to accumulate economic power to survive, followed by the peaceful cooperation and coordination of the Arctic Five in order to efficiently accrue economic resources. However, the questions surrounding resource sovereignty constitutes the need for this political agreement; therefore, the foundation of this political agreement will focus on resource sovereignty, non-militarization and continued cooperation in the Arctic sphere, and a rhetorical argument for 'environmental sustainability'. The latter point, although a term most commonly used in the liberal lexicon, will be used in a rhetorical sense to constrain Russian power and the pursuit of its economic resources in the Arctic. Russia has the most to gain from the extraction of Arctic resources due to the importance of oil and gas to their economy; therefore, Russia is the biggest threat to this political agreement and the other four Arctic states.

In order to investigate political agreements in similar contexts, the most appropriate method to determine a framework for the Arctic is through two case studies pertinent to this topic: UNCLOS III (1991) and the Antarctic Treaty System (1961). The third iteration of UNCLOS provides not only a legal precedent for an Arctic political agreement, but also provides a way to see the treaty's shortcomings in regard to the language regarding continental shelves and the lack of specificity regarding Arctic-specific conditions. The analysis of the ATS demonstrates a regional treaty based around resource sovereignty and non-militarization and cooperation. The

upcoming analysis will describe both the relevant provisions of these treaties that will aid in forming the basis for cooperation, resource sovereignty, and environmental sustainability and will also show the current detriments to each treaty. The political agreement is a structural realist tool to constrain overall Russian power and to buy the U.S. and its allies time to increase their relative power and influence in the Arctic.

*Case Study: UNCLOS III*

In 2008, the Arctic Five signed the *Ilulissat Declaration*, proclaiming that UNCLOS provides a sufficient framework for the governance and “responsible management” of the Arctic Circle and its resources. However, UNCLOS is a poor fit to handle the impending disputes and challenges that will plague the Arctic because of its ambiguous legal language in Article 76, the powerlessness of the CLSC, and UNCLOS’ inability to adapt to Arctic-specific conditions. Further analysis of UNCLOS and its implementation provides not only the legal precedent for the creation of an Arctic political agreement, but also reveals pitfalls and flaws in the relevant areas of the agreement.

UNCLOS establishes the norms, rules, and duties regarding “navigation, pollution, conservation, deep seabed mining, dispute resolution, jurisdiction, and exploitation of resources” in the Earth’s oceans<sup>139</sup>. Originally written as a series of four conventions in 1958 in an attempt to legally codify Dutch philosopher Grotius’ “freedom of the seas” principle, UNCLOS I was unsuccessful. After a failed second conference aimed at reconciling its shortcomings, the third and current iteration of UNCLOS was formulated at the Third United Nations Conference in 1973 in response to international clamor to update the legal language in response to new political realities

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<sup>139</sup> Malloy, Bonnie A. 2010. “On Thin Ice: How a Binding Treaty Regime Can Save the Arctic.” *16 Hastings W.-N.W. J. Env. L. & Pol’y* 471.

and technological advances<sup>140</sup>. After a series of eight meetings, UNCLOS III was adopted in 1982 and entered into force November 1994, with every industrial nation signing as a party to the treaty, except the U.S.<sup>141</sup>.

UNCLOS provided the legal precedent for the creation of regional political agreements such as the one in this paper, encouraging the cooperation of states “bordering enclosed or semi-enclosed seas”<sup>142</sup> in Article 123. What’s more, UNCLOS also urges states to coordinate environmental management and conservation, implementation of individual state responsibilities and sovereign rights, scientific research, and in other relevant areas through “directly or through an appropriate regional organization”<sup>143</sup>. This provides a clear legal precedent for an Arctic regional political agreement to deal with the region-specific quarrels, territorial disagreements, and overall regional management.

The most relevant section of UNCLOS to the Arctic is Part VI: Continental Shelf [see Fig. 10], which defines the anatomy of the continental shelf, the rights of each state over their continental shelf, and the agreed upon delineation of the continental shelf. To elaborate, Part VI defined four layered jurisdictional zones and many types of bodies of water, with each zone and type of water having corresponding rights and restrictions. The four jurisdictional zones named are: the Territorial Zone, which is from 0-12 nautical miles (nm) from shore; the Contiguous Zone, 12nm - 24nm from shore, and the Exclusive Economic Zone, which is 24nm - 200nm from

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<sup>140</sup> Rajabov, Martin. 2009. “Symposium: Arctic Sovereignty: Cold Facts, Hot Issues: Note and Comment: Melting Ice and Heated Conflicts: A Multilateral Treaty as a Preferable Settlement for the Arctic Territorial Dispute.” *15 Sw. J. Int’l L.* 419.

<sup>141</sup> The Reagan Administration first rejected the treaty due to provisions on technology transfer and seabed drilling that eventually fixed in an amendment. While every president since 1983 has supported adoption of UNCLOS, the U.S. senate has refused to broach the topic due to isolationists politicians and politicized arguments about sovereignty.

<sup>142</sup> United Nations General Assembly. 1982. “United Nations Convention of the Law of the Sea.” United Nations.

<sup>143</sup> UNCLOS, Article 123

shore<sup>144</sup>. The final jurisdictional zone is the continental shelf, where the coastal state has sovereignty over the right to exploit and cultivate its natural resources since the continental shelf is seen as a natural prolongation of the coastal state's land territory<sup>145</sup>. Under UNCLOS Appendix II, each state has the right to submit a claim to the CLCS, backed up by scientific evidence, to expand their continental shelf past their EEZ within ten years of the state's ratification of UNCLOS. If a state can prove its continental shelf extends past 220 nm of its shore, then they have exclusive rights to the resources on and under their continental shelf up to 350 nm<sup>146</sup>.

Yet, in the definition of a continental shelf in Article 76 there is a disconnect between the legal definitions of: "oceanic ridges", "submarine ridges", "submarine elevations", and "continental shelf" and their parallel scientific definitions<sup>147</sup>. During the arbitration of the creation of UNCLOS III, the framers sought to balance the interests of the states looking to extend their territory and the interests of those who wanted to prevent certain states from extending their continental shelf zone out past their EEZ and into international waters as well as excessive claims<sup>148</sup>. Ironically, Russia, then the Soviet Union, was the first to state their concern of excessive continental shelf claims, pushing to include ambiguous and pseudo-scientific language such as "ocean ridges" (para 3), "submarine ridge", and "submarine elevations that are natural components of the continental margin" (para 6)<sup>149</sup>. The Soviet Union saw an opportunity to project its power to protect its interests in UNCLOS by making the legal language ambiguous and therefore flexible.

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<sup>144</sup> Ibid.

<sup>145</sup> Ibid., 140

<sup>146</sup> Ibid., 142

<sup>147</sup> Carpenter, Brent. 2009. "COMMENT: WARM IS THE NEW COLD: GLOBAL WARMING, OIL, UNCLOS ARTICLE 76, AND HOW AN ARCTIC TREATY MIGHT STOP A NEW COLD WAR." 39 *Envtl. L.* 215.

<sup>148</sup> Ibid.

<sup>149</sup> Division for Ocean Affairs and the Law of the Sea Office of Legal Affairs. 2006. "Chapter VII." In *Training Manual for Delineation of the Outer Limits of the Continental Shelf Beyond 200 Nautical Miles and for Preparation of Submissions to the Commission on the Limits of the Continental Shelf*.

This subsequent divide between the legal language in Article 76 and the actual scientific definition of a continental shelf creates a problem for both the states and the CLCS, which is comprised of a mix of scientists and a member of the Royal Saudi Air Force<sup>150</sup>, to constitute a ruling. For example, from a scientific perspective, the continental shelf is defined as the seabed that extends from the shoreline to the shelf break, an abrupt drop that slopes down to become the continental slope, terminating at the end of the continental slope; or alternatively when there is no noticeable slope in a depth of the water that is between 100 and 200 meters. In contrast, UNCLOS uses legal jargon to create a confusing and scientifically and legally-ambiguous definition of a continental shelf:

“The continental shelf of a coastal State comprises the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance.”<sup>151</sup>

This political disconnect between the legal and scientific language of Article 76 is one of the key reasons why UNCLOS and CLCS are inefficient and ill-equipped to deal with the relevant territorial and continental shelf issues of the Arctic<sup>152</sup>. In this case, the language is so open to interpretation that the CLCS does not have set criteria to analyze a submission<sup>153</sup>. It is important to remember that while the CLCS is considered binding and final by UNCLOS; Canada, Denmark, and Russia have all opted out of the binding resolution, meaning the CLCS is insignificant since

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<sup>150</sup> Commission on the Limits of the Continental Shelf. 2017. “Members of the Commission: Curriculum Vitae.” Commission on the Limits of the Continental Shelf (CLCS) Members of the Commission. October 30, 2017.

<sup>151</sup> UNCLOS, Article 76, para 1

<sup>152</sup> Additionally, every state must submit their initial proposal 10 years after ratification of UNCLOS, a window which has now passed for every Arctic state signatory.

<sup>153</sup> Cavnar, Anna. 2009. “Accountability and the Commission on the Limits of the Continental Shelf: Deciding Who Owns the Ocean Floor.” *42 Cornell Int’l L.J.* 387.



there is nothing to prevent states from acting to protect their extended claims. To complicate matters, due to its harsh conditions, the Arctic's ocean floor has never been fully surveyed because of lack of sufficient and capable technology, meaning each state has an incentive to accurately explore and engage in scientific research in the area in order to further their continental shelf claim.

In regard to this new political agreement, the delineation of the continental shelf will be succinct, clear, and will use the widely agreed upon scientific definition of a continental shelf, preventing states from using murky language as a vector for extending their territory to acquire the valuable resources beneath the ocean floor. This will curb the Arctic Five's power to extend dubious continental shelf claims; however, this will harm Russia the most since they have the most to gain from overly flexible definitions of continental shelves.

Ultimately, the broadness of UNCLOS renders it ill-equipped to deal with the unique challenges the Arctic such as security interests, indigenous persons, sustainability of living and non-living resources, pollution, and specific jurisdictional issues such as Sector Theory<sup>154</sup>. Primarily, UNCLOS is a broad, comprehensive treaty governing open waters and its laws are written as such. In a region primarily dominated by perennial ice sheets, it adds a physical dimension of complications that UNCLOS is not equipped to handle such as the creation and management of new sea routes, regulations governing appropriate equipment to operate in the Arctic environment, and climate-specific deep-sea mining issues among others<sup>155</sup>.

However, UNCLOS also penned a key concept that the U.S. can use to push Russia towards the desired political agreement: Common Heritage of Mankind (CHM). While this is a term most associated with liberal theory, CHM can be used as a rhetorical tool of structural realism to push Russia into committing to a regional political agreement since CHM centers on sharing all

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<sup>154</sup> Ibid., 25

<sup>155</sup> Ibid., 23

resources in a common area, an outcome Russia surely wants to avoid. In Article 137 of UNCLOS III, the framers incorporated an idea of CHM, a quasi-utilitarian concept popularized by Immanuel Kant and a central tenet of Freedom of the Seas, which claims that certain parts of the world, in this case international waters, cannot belong to single nation and “therefore should be shared by all of mankind”<sup>156</sup>. The inclusion of CHM in UNCLOS III was revolutionary enough to be included in the list of reasons as to why the U.S. refused to ratify UNCLOS III<sup>157</sup>. No succinct global definition of CHM exists, however most versions of CHM share five primary points:

- 1) No public or private annexation of the international commons
- 2) All states manage the resources of the commons
- 3) All states share the gains from natural resource exploitation
- 4) Non-militarization of the commons
- 5) Preservation of the commons for future generations<sup>158</sup>

In UNCLOS, CHM comes into play during management of the Area, the term UNCLOS denoted for the seabed, ocean floor, and subsoil past the EEZ<sup>159</sup>. Article 136 of UNCLOS officially declared the Area and its resources as “the common heritage of mankind”<sup>160</sup>, to be managed by the International Seabed Authority (ISA) which not only manages the Area, but will also coordinate the exploration, exploitation, and sharing of the Area’s resources on mankind’s behalf<sup>161</sup>. The major threat to Russia is the idea of shared resources because oil and gas are so crucial to Russia’s domestic economy and its accumulation of economic power. If the CLCS rejects every Arctic states’ proposal, then the ISA would be bound to distribute the Arctic’s resources evenly to the entire world<sup>162</sup>, severely diminishing the economic benefit Russia would receive.

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<sup>156</sup> Ashfaq, Sarah. 2010. “Article: Something for Everyone: Why the United States Should Ratify the Law of the Sea Treaty.” *19 J. Transnat’l L. & Pol’y* 357.

<sup>157</sup> *Ibid.*, 119

<sup>158</sup> *Ibid.*, 119

<sup>159</sup> UNCLOS, Part XI: The Area

<sup>160</sup> UNCLOS, Article 136

<sup>161</sup> *Ibid.*, 149; UNCLOS Article 140; Concurrently, the International Seabed Authority promotes research, spread of technological know-how, and environmental sustainability.

<sup>162</sup> UNCLOS, Article 157

Russia may be more apt to agree to come to the table to discuss a political agreement considering UNCLOS and CHM could provide the legal groundwork for a global common, protecting the Area from exploitation by individual states and corporations alike, a worrying outcome especially given the growing interest of non-Arctic states such as China, India, and the United Kingdom in the resources in the Arctic. Additionally, current legal analysis believes that Russia's extended continental shelf claim will not be recommended by the CLCS<sup>163</sup>. Even though Russia has repeatedly stated its commitment to cooperation with the other Arctic states<sup>164</sup>, there is no mechanism to stop Russia from extending its influence past its EEZ without the approval of CLCS.

UNCLOS shows how the dichotomy between legal and scientific language can create confusing criteria for continental shelf delineation and provides a rhetorical argument to constrain Russia by using CHM. Furthermore, while the importance of UNCLOS cannot be understated in the international arena, in this situation an overarching international treaty can be too broad for region-specific issues, especially those regions with exceptional geopolitical and environmental considerations such as the Arctic. UNCLOS III provides not only a legal precedent for an Arctic political agreement but demonstrates how ambiguous legal language can be detrimental to a political agreement. From a structural realist perspective, this is important to the political agreement because it is in the other states interests to clarify the language defining continental shelves in scientific language to constrain the state with the most to gain from ambiguous legal language, Russia. Additionally, UNCLOS III provides a rhetorical tool to convince Russia that a political agreement between the Arctic Five is better than the continuation of UNCLOS in the High

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<sup>163</sup> Ibid., Korger; Spielman, Brian. 2009. "An Evaluation of Russia's Impending Claim for Continental Shelf Expansion: Why Rule 5 Will Shelve Russia's Submission." *23 Emory Int'l L. Rev.* 309.

<sup>164</sup> Russian Geographical Society. 2018. "Russia and Canada to Explore the Arctic Shelf Together." International Cooperation. March 7, 2018.

North due to the potential application of CHM which would allow the Arctic Ocean to become a global common barring the acceptance of an Arctic state's CLCS submission. Therefore, Russia would rather enter into a political agreement with the Arctic Five and engage in a regional scientific council to confirm their claims than share the trillions of dollars of resources with the rest of the world, receiving a significantly smaller portion of revenue than it would prefer.

*Case Study: Antarctic Treaty System*

While UNCLOS is currently the primary law of the Arctic Circle, the Antarctic Treaty System (ATS), is can be considered the predecessor to an Arctic political agreement. Created in 1961, ATS provides three key provisions that are relevant to the Arctic political agreement: interdependent scientific cooperation, non-militarization, and the suspended territorial claims to the continent<sup>165</sup>.

The similarities between the current situation in the Arctic and the ATS are striking: harsh and vulnerable climates of polar ecosystems, isolation from the majority of the international community, norms of cooperation and coordination, and the need for a regional political agreement to deal with questions of resource sovereignty and management, non-militarization, and national security<sup>166</sup>. However, the differences are just as important to note as well. Most obviously, Antarctica is a continent while the Arctic is comprised of the Arctic Ocean and a perennial ice cap, making the natural resources beneath the North Pole more accessible than those under the South Pole. Additionally, the Arctic is home to over 4 million people while Antarctica is the only uninhabited continent on Earth. Notably, Antarctica has been more accessible and more frequently surveyed than the Arctic because the High North is covered with impassible ice sheets for most of

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<sup>165</sup> Ibid., 23.

<sup>166</sup> Ibid., 56

the year<sup>167</sup>. Finally, the economic value of the numerous conflicting land claims in the Arctic far outweighs the value of the land claims of Antarctica.

Despite these differences, the ATS is an ideal guide for an Arctic political agreement. First, the ATS was founded on the ideal of international scientific cooperation, an ideal so compelling that it was instrumental in bringing the U.S. and the Soviet Union to the table in the midst of the Cold War to form the first arms control treaty of the conflict<sup>168</sup>. Even before the Cold War, this region was controversial since seven countries claimed sovereignty on the only unpopulated continent on the planet between 1908 and 1943<sup>169</sup>. Despite the conflicting territorial claims, the creation of the ATS came at the heels of extraordinary pressure from the international scientific community. When twelve states<sup>170</sup> established scientific teams in Antarctica in 1956, they all agreed to freedom of placement of scientific stations, heedless of territorial claims<sup>171</sup>. This created a remarkable international camaraderie between the individual national scientific teams; in fact, when the notion for a treaty was first suggested, the Antarctic scientific teams of the 12 countries vowed to uphold the level of international cooperation they had established, no matter the outcome of the negotiations for the treaty<sup>172</sup>.

In May 1958, the U.S. expressed the need for an Antarctic treaty, with the U.S. National Security Council affirming the desire for, “a treaty designed to preserve the continent as an international laboratory for scientific research and ensure that it be used only for peaceful

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<sup>167</sup> Ibid.

<sup>168</sup> Joyner, Christopher C. 1991. “Ice Covered Regions in International Law.” *Natural Resources Journal* 31 *Nat. Resources J.*

<sup>169</sup> Ibid.

<sup>170</sup> Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Soviet Union, the United Kingdom, and the United States

<sup>171</sup> Ibid., 168

<sup>172</sup> Shusterich, Kurt M. 1984. “The Antarctic Treaty System: History, Substance, and Speculation.” *International Journal; Toronto* 39 (4): 800–827.

purposes”<sup>173</sup>. While the original twelve nations were the initial signatories of the ATS, currently 53 members are party to the ATS which includes the Antarctic Treaty (1961) itself, the Convention for the Conservation of Antarctic Seals (1972), the Convention of Antarctic Marine Living Resources (1980), the Protocol on Environmental Protection to the Antarctic treaty (1998)<sup>174</sup>, and the recommendations of the consultative parties decided at meetings of the Parties of the Antarctic Treaty<sup>175</sup>.

While originally created to cement cooperation and prevent conflict and nuclear proliferation, the ATS has been adapted into more of an environmental treaty, especially after the implementation of the 1998 Madrid Protocol<sup>176</sup>. That being said, the treaty has been successful in facilitating cooperation and preventing conflict for four particular reasons. First, it prioritizes compromise and cooperation over conflict, penning in the preamble of the treaty, “it is in the interest of all of mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord”<sup>177</sup>. More emphatically, the ATS encourages unrestricted scientific exploration, international cooperation, and the free exchange of scientific information through an annual exchange of scientific research, data, and information between the consultative parties. Second, it created a sense of exclusivity between the 29 current consultative parties. Not only do the 29 states hold the decision-making power, but appointed observers from the consultative parties have free access to the entire continent and have the right to aerially observe whomever is operating on the continent<sup>178</sup>. The latter point has appeal

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<sup>173</sup> U.S. National Security Council. 1958. “US Policy on Antarctica” 8 March 1958. NSC 5804/1. Declassified 22 Jan 1982.

<sup>174</sup> Henceforth referred to as the “Madrid Protocol”

<sup>175</sup> Lennon, Erika. 2008. “Environmental Change in Polar Regions: A Tale of Two Poles: A Comparative Look at the Legal Regimes in the Arctic and Antarctic” 8 Sustainable Dev. L. & Pol'y 32.

<sup>176</sup> Ibid.

<sup>177</sup> The Antarctic Treaty, Preamble

<sup>178</sup> Ibid., 164

in an Arctic political agreement as well, especially considering the power players that constitute the observer states on the Arctic Council. The third and fourth reasons for the ATS' success, non-militarization and suspension of territorial claims, will be particularly essential in crafting this Arctic political agreement.

Non-militarization of Antarctica is outlined in Article 1 of the Antarctic Treaty, which prohibits any establishment of “military bases and fortifications, the carrying out of military maneuvers” while ensuring the ability of states to use their military personnel and equipment “for scientific research or for any other peaceful purpose”<sup>179</sup>. What’s more, Article 5 which prohibits nuclear explosions, testing, or disposal of nuclear waste in Antarctica.

Perhaps most importantly, the ATS freezes all territorial claims indefinitely until further scientific research could be done to delineate territorial claims<sup>180</sup>. It neither disputes existing territorial claims nor allows new territorial claims. In other words, no state has been allowed to progress their claim, but simultaneously no state has been forced to renounce their claim either<sup>181</sup>. This “agreement to disagree” allowed states shift the focus from territorial disputes to issues surrounding scientific and institutional cooperation in the region<sup>182</sup>.

### **Results of Preference Schedules and Case Studies**

The need for a political agreement is apparent in the realities of the rising tension emerging from Russia’s militarization of the Arctic and in light of the previous analysis which determined the poor ability of UNCLOS to rule the Arctic due to its broadness and its politicized, murky legal language pertaining to a significant area of Arctic affairs. From the analysis of state preference

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<sup>179</sup> Antarctic Treaty, Article I

<sup>180</sup> *Ibid.* Article IV

<sup>181</sup> *Ibid.*, 166

<sup>182</sup> Verhaag, Melissa A. 2003. “It Is Not Too Late: The Need for a Comprehensive International Treaty to Protect the Arctic.” *15 Geo. Int’l Envtl. L. Rev.* 555.

schedules and the two previous case studies, a political agreement can begin to take shape. The main purpose of this political agreement is to prevent potential conflict over resource sovereignty, but more importantly to constrain Russian power ambitions by preventing them from obtaining valuable economic resources in the Arctic through the U.S. and its allies' use of institutions instead of the classic realist definition of power. The U.S., Canada, Denmark, and Norway all gain from a political agreement through the prevention of conflict over resource sovereignty, the restriction of Russian economic and military aggression, and through the ability to directly influence the delineation of continental shelves without having to rely on ambiguous politicized language. The latter point is also an important incentive for Russia to participate in this political agreement considering the current legal analysis does not look favorably upon Russia's most recent CLCS submission.

The legal foundation of this political agreement centers around Article 128 of UNCLOS, which encourages states to cooperate and form their own agreements as needed. From the preference schedules detailing each of the Arctic Five's ranked outcome preference, it is apparent that the political agreement should center around resource sovereignty, continued peaceful cooperation and coordination, and 'environmental sustainability', or rather a climate change related ruse to restrict Russia from operating past their EEZ.

The importance of resource sovereignty to each state is drawn from the states' eagerness to extract the excess of natural resources and utilize the emerging shipping lanes. Some territorial conflicts can be worked out bilaterally or through the Arctic Council; however, Russia, Canada, and Denmark have conflicting submissions to the CLCS over an extremely valuable geographical feature in the North Pole called the Lomonosov Ridge. With potentially trillions of dollars on the line, the divide between legal language and the parallel scientific language of Article 76 of UNCLOS could cost one or all of these countries an astounding amount of economic capabilities.



A discussion of the specific policy will follow, but the need to remove the ambiguity to the language is essential to this political agreement. Second, the non-militarization of the Arctic will draw directly from Articles 1 and 5 of the Antarctic Treaty, barring any military activity in the region, including the prohibition of any nuclear testing, explosions, or waste, except in the aid of scientific research or other peaceful purposes. As shown in the ATS, the sense of exclusivity in a regional political agreement not only brings the states closer together, but it creates an incentive for states to join the agreement in order to acquire decision-making capabilities. Cooperation based around the Arctic Council, search and rescue and emergency management, and scientific research is the norm of behavior in the Arctic currently, and after analysis of each state's preference schedule, there is no reason to suspect this will change. Third and finally, another common preferred outcome of all the Arctic Five was environmental sustainability of the Arctic which provided an avenue to constrain Russia through a rhetorical argument based around this named common interest. A discussion of specific policies to help constrain Russia will follow.

This political agreement is a stop-gap measure, not an enduring international treaty. In the context of Russian unpredictability in the international arena, it is essential to prevent them from accumulating the glut of natural resources in the Arctic. This buys time for the other states, not only to revamp their military operations in the High North, but to research reliable and sustainable methods for efficient and cost-effective resource extraction in the arduous Arctic environment. As will be discussed, this political agreement aids the Arctic Five's best interest in the long-run.

### **Discussion and Rhetorical Arguments**

The main intent of this political agreement is to restrict Russia from gaining the economic resources past their EEZ that are crucial to their domestic economy and overall capability. In order to accomplish this structural realist goal, a key provision of the future Arctic political agreement is the suspension of territorial claims and drilling in the Arctic, similar to the provision in Article

IV of the ATS, in order to completely survey the Arctic and delineate the continental shelves once and for all. This ban will not only prevent Russia from accumulating valuable resources but will allow the other states to level the playing field against Russia by suppling time to prepare for intensified Arctic operations by building infrastructure and influence in the High North. Russia is far ahead in terms of influence and military capital in the Arctic; therefore, freezing territorial claims and drilling past one's EEZ permits other states, mainly the U.S., a window of time to increase their relative power in the region to balance Russian military power and influence. Matching Russia's capacity in the Arctic will take time considering the construction of a new, state-of-the-art icebreaker takes ten years to complete<sup>183</sup>; however, the U.S. and its allies need to prepare and plan for a continued escalation of Russian aggression in the Arctic as Russia's domestic supply of oil and gas dwindles. In the context of structural realism, it is vital for the U.S. and its allies to increase their relative power in the High North in order to deter an illegal Russian play for the Arctic's resources. To this point, due to anarchy in the international system and Russia's decision to opt out of the binding resolution in the CLCS, there is nothing to prevent Russia from drilling past its EEZ, especially considering they are due to run out of oil by 2044. In light of their current military hegemony in the Arctic, why would Russia agree to a political agreement to freeze on territorial claims and drilling past a state's EEZ?

Canada, Norway, and even Denmark all have an incentive to agree to this ban because the security implications of a hamstrunged Russia. Additionally, the ban does not directly hurt the interests of the states; more specifically, these states will not have exhausted their domestic reserves of oil and gas incorporated in their EEZ. All four states, although mainly the U.S. and

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<sup>183</sup> Judson, Jen. 2015. "The Icebreaker Gap." The Agenda. September 9, 2015.

Canada, will also be able to prepare more sufficiently for an increased presence in the Arctic to match Russia's militarized sector, instead of having to race against a clock set by the CLCS.

The main obstacle to this agreement will be convincing Russia to agree to this ban meant to stifle them without Moscow actually realizing they are being constrained. In this case, the ban needs to be presented in a manner that will push Russia into accepting that it will need this ban order to protect its own interests, accomplished by two arguments: 1) the aforementioned need to have a definitive delineation of continental shelves in the Arctic free from the politicized language in UNCLOS and 2) a rhetorical argument based on the detrimental effects from rapid climate change in the Arctic and Russia. This second argument usually does not hold weight in structural realism; but in this case, it is being used as a tool to prevent the acquisition of resources valuable to Russia, a realist goal.

### *Independent Scientific Council*

While the obscure language in UNCLOS provides states some legal wiggle-room, it also leaves the states' extended continental shelf submissions up to interpretation by the CLCS, who does not have set criteria to confirm or reject these submissions. The Arctic Five benefit from the creation of an independent scientific council comprised of scientists from each of the five states, which allows each state the chance to defend their national interests and to benefit from shared scientific research. First, this council's first goal must be a transparent, agreed-upon definition of a continental shelf guided by scientific knowledge and language, not the politicized language of Article 76 of UNCLOS. This scientific council, which can be based out of the Arctic Council, will then research and map the Arctic Ocean floor to delineate the Arctic continental shelves and their subsequent territorial claims. Furthermore, historically international scientific cooperation breeds trust and coordination, as exemplified in the ATS, a common interest between all of the Arctic

Five. This scientific council benefits because, despite the Kremlin's confidence in the scientific validity of their claim, experts and analysts assert that Russia's CLCS submission will be rejected. This future independent council of Arctic Five scientists provides Russia a second opportunity gather evidence to clarify and perfect their claim to their extended continental shelf. The clarity of language and the sharing of scientific information will help to decode intentions as well as allow Russia to act through international institutions to verify its claim on its extended continental shelf, a policy they have stated their committed to many times.

### *Rhetorical Climate Change Argument*

First, it is essential to emphasize that this next argument is in the context of structural realism. Rhetorical arguments based around climate change are usually a device from liberalism, but it can also be a tool that the U.S. and the other Arctic states can use to constrain Russia. In other words, this rhetorical argument is a liberal means to a structural realist end, where the end is the successful restriction of Russian accumulation of natural resources past their EEZ. The U.S., Norway, Canada, and Denmark should use this ban to hamper Russian extraction of resources past their EEZ under the rhetorical guise of preventing the further harm to the Arctic's delicate ecosystem to avoid bearing the national costs and consequences from the processes of climate change, especially considering the effect the Arctic has on global weather and climate<sup>184</sup>.

As well, the concept of climate change has a role in realist theory. According to structural realism, the structure of the international system is the main influence on state behavior. Climate change is clearly not a primary actor because it is not a state and it does not have goals, intentions, or preference of outcomes; however, is the closest condition to a 'state of nature' that exists in our world today. It has the ability to influence the relative power of states through natural disasters,

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<sup>184</sup> Ibid., 2

damaged infrastructure, and produce adverse effects on regional stability. The combined military power of the U.S. and Russia are powerless in the face of natural disasters associated with climate change. Climate change can decrease relative power by forcing states to divert economic capabilities to disaster management, recovery, and rebuilding infrastructure. In this way, the consequences of climate change on Russia have the potential to be devastating due to its poor institutional capability, large landmass, and the instability it could cause along its southern border. In this case, climate change is going to inevitably decrease Russia's relative power, either by the U.S.'s use of it to constrain Russia in this political agreement or by the economic and institutional cost that will be forced upon the largest country in the world in the coming decades due to climate change.

Some of the detrimental effects of climate change will affect overall operations in the Arctic for all states by generating complications for resource extraction. Primarily, the increase of drilling and natural resource extraction, principally in the industrial collection of natural gas<sup>185</sup>, will release carbon and greenhouse gases such as methane and carbon into the atmosphere<sup>186</sup>, further accelerating climate change<sup>187</sup>. Likewise, oil exploration correlates strongly with an increase in the frequency of oil spills and pollution<sup>188</sup>. On this point, it is essential to remark upon the impracticality of cleaning up oil spills and leaks in the ocean and corresponding environment. One of the crucial lessons of the 1989 Exxon Valdez oil spill is not only the impossibility of cleaning up oil from water, but also the logistical difficulty of such an immense clean-up effort in such a remote location, especially the delivery of food and fuel to the necessary parties with such

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<sup>185</sup> Remember Russia's dependence on natural gas

<sup>186</sup> *Ibid.*, 2

<sup>187</sup> *Ibid.*, 2

<sup>188</sup> Richard J. Ansson, Jr., *The North American Agreement on Environmental Protection and the Arctic Council Agreement: Will These Multinational Agreements Adequately Protect the Environment?*, 29 *Cal. W. Int'l L.J.* 101, 116 (1998).

limited infrastructure<sup>189</sup>. In the same way, it is valuable to note in the dearth of appropriately durable and Arctic-specific technology and materials that can operate in the merciless Arctic environment. For example, oil tankers' hulls are not built to withstand a collision with ice, revealing a troubling risk considering the upcoming surge in shipping and transportation in the Arctic<sup>190</sup>. This has become even more of a concern because as the Arctic warms, chunks of ice break off from the larger ice cap and can easily drift into shipping lanes and collide with ships<sup>191</sup>.

Additionally, the building of infrastructure such as pipelines and roads is a fundamental precursor to oil extraction. This could be severely undercut by melting permafrost, which destabilizes infrastructure<sup>192</sup>, especially those structures situated close to the coast. A comprehensive report on the effects of climate change in the Arctic also warns that melting permafrost and the subsequent inconsistency of the stability of the soil could have deep ramifications for the design of oil and gas facilities because of the need to anchor to the seabed<sup>193</sup>. Along a similar vein, underground pipelines become vulnerable to ice keels<sup>194</sup>, which can cause a puncture that can go undetected for months<sup>195</sup>. The development of Arctic-specific technology relating to drilling and shipping will help to curb the number of human caused environmental disasters and their cost, an outcome beneficial to all of the Arctic Five.

However, in this context, it is essential to provide evidence of the specific detrimental effects that climate change will have on Russia, especially in an attempt to convince them to buy into the territorial and drilling suspension. According to Russian researchers and state officials,

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<sup>189</sup> Ibid., Carpenter

<sup>190</sup> Ibid.

<sup>191</sup> Ibid., 147

<sup>192</sup> Walsh, John E. 2005. "Chapter 6: Cryosphere and Hydrology." In *Arctic Climate Impact Assessment*. Arctic Council.

<sup>193</sup> Instanes, Arne. 2005. "Chapter 16: Infrastructure: Buildings, Support Systems, and Industrial Facilities." In *Arctic Climate Impact Assessment*. Arctic Council.

<sup>194</sup> Chucks of ice that come off an ice ridge and sink to the ocean floor

<sup>195</sup> Ibid., 134

over 10 million Russians are currently facing climate change related risks<sup>196</sup>. Donskoy, Russia's Minister of the Environment, stated that climate change was costing the country somewhere between the equivalent of \$530 million to \$1 billion dollars annually and is projected to cost Russia as much as 1% to 2% of their GDP by 2030<sup>197</sup>. According to a report from Russia's own climate and environment agency, between 1976 and 2012, the rise of Russia's average temperature per decade (0.43° C) rose more than twice the global average (0.17° C)<sup>198</sup> [See Fig. 11]. This trend has continued, with a 2014 follow-up report maintaining, partly due to the severely melting permafrost<sup>199</sup>, that Russia is warming at 2.5 times the global average which is a threat to both the Russian economy and its citizens.

In a global context, climate change and the subsequent warming of the planet alters weather patterns around the world, increasing the frequency of extreme weather events<sup>200</sup>. The decrease in sea ice levels in the Arctic allows solar rays to be absorbed into the water, heating the ocean. Consequently, the absence of ice, which also acts as an insulator, allows the heat to escape in the atmosphere, causing the Arctic to warm faster than the rest of the world. This phenomenon has been dubbed "Arctic amplification" and it negatively affects the Arctic jet stream<sup>201</sup> which keeps cold air centered in the Arctic. Damage to the jet stream permits cold air to seep south, resulting

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<sup>196</sup> Davydova, Angelina. 2017. "From Floods to Fires, Russia Sees Stronger Climate Impacts - But..." *Reuters*, June 8, 2017.

<sup>197</sup> Ministry of Natural Resources of Russia. 2016. "Report on the Implementation in 2015 of a Comprehensive Implementation Plan for the Climate Doctrine of the Russian Federation for the Period up to 2020." State Reports. May 16, 2016.

<sup>198</sup> Federal Service for Hydrometeorology and Monitoring of the Environment. 2014. "Second Assessment Report of ROSHYDROMET on Climate Change AND ITS POSITIONS TERRITORY OF THE RUSSIAN FEDERATION."

<sup>199</sup> "Second Assessment Report of Roshydromet on climate change and their consequences on the territory of the Russian Federation." 2014. Moskva.

<sup>200</sup> National Snow and Ice Data Center. 2009. "Arctic Amplification | National Snow and Ice Data Center." NSIDC Monthly Highlights. 2009.

<sup>201</sup> Arctic Amplification is the polar phenomenon that the release of GHGs produces a stronger warming effect in the poles than the rest of the world; Ibid.

harder-hitting winters for Europe, Asia, and North America<sup>202</sup>. Conjointly, melting permafrost has exacerbated warming temperatures which has been strongly linked to an increase in natural disasters in Russia<sup>203</sup> [See Fig. 12]. Alarmingly, the science suggests this trend will continue and cause an increase of severe heatwaves, droughts, and wildfires, including in Russia's most agriculturally productive regions, Stavropol and Krasnodar<sup>204</sup>. As recently as 2010, a violent heatwave accompanied by several wildfires took the lives of over 55,000 Russians and caused over \$15 billion in crop losses<sup>205</sup>. Additionally, the fumes emitted by the wildfires caused mortality rates to double in Moscow that year<sup>206</sup>. In light of the cataclysmic outcome of the 2010 heatwave, one must question whether Russia has the institutional capacity to respond to these disasters, especially considering their immense landmass.

As the Arctic region warms twice as fast as the rest of the world, melting permafrost causes serious infrastructural problems for Russia<sup>207</sup>; but besides the danger to infrastructural integrity, melting permafrost can introduce noxious diseases by releasing microbes into the air that have been trapped in ice for millennia. In 2012, 72 nomadic herders in Siberia were hospitalized with Anthrax, tragically resulting in the death of a 12-year-old boy<sup>208</sup>. The herders contracted the bacteria from thawing reindeer remains which had seeped into the groundwater<sup>209</sup>. Not only does melting permafrost release disease and exacerbate the warming of the planet, but when combined

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<sup>202</sup> Ibid.

<sup>203</sup> Anisimov, O.A. 2017. "Socio-Economic Impacts of Thawing Permafrost in Russia." Russian Hydrological Service.

<sup>204</sup> Additionally, studies suggest that melting permafrost could cause alterations in the Volga river into Russia's most agriculturally productive regions.

<sup>205</sup> International Strategy for Disaster Reduction, USAID, and Centre for Research on the Epidemiology of Disasters. 2010. "2010 Disasters in Numbers."

<sup>206</sup> Ferris-Rotman, Amic, and Steve Gutterman. 2010. "Death Rate Doubles in Moscow's Heat Crisis | Reuters." August 9, 2010.

<sup>207</sup> Ibid., 193

<sup>208</sup> Yale Environment 360. 2016. "Anthrax Outbreak in Northern Russia Linked to Rising Global Temperatures - Yale E360." August 2, 2016.

<sup>209</sup> Ibid



with sea level rise, it also impacts the coastline. A scientist specializing in Siberia at the Russian Academy of Sciences told Russian news outlet TASS that melting permafrost is causing coastal erosion in Siberia equivalent to the area of the nation of Andorra, or 468 sq. km<sup>210</sup>. Melting permafrost also causes sinkholes which has devastating effects on infrastructure<sup>211</sup>, including some Russian military bases which were built on top of permafrost<sup>212</sup>. This sinkhole threat is not idle, especially considering Russia's lack of research in this field and the scope of Russian military infrastructure in the Arctic.

Across the world, nations have realized the direct threat of sea level rise to their naval military installations. While countries such as the U.S., the United Kingdom, and China have put federal funds towards researching the effects of sea level rise on military installations, Russia has not<sup>213</sup>, leaving them vulnerable in crucial regions and cities<sup>214</sup>. Nevertheless, Putin has previously claimed that climate change would actually be beneficial to Russia by making previously unproductive lands, such as Siberia, more fertile and agriculturally productive<sup>215</sup>. Research suggests that while this is not entirely incorrect<sup>216</sup>, the supposed benefits of climate change are far from certain and are outweighed by future detrimental effects to the land, relevant industry, and infrastructure. To further this point, any economic benefit from the creation of fertile lands in Siberia will be outweighed by the increased probability of drought and wildfires in Russia's current most productive agricultural regions<sup>217</sup>. However, the Arctic environment and Russia are not the

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<sup>210</sup> TASS. 2015. "Russia Loses Territory Equal to Andorra Annually — Geology Expert." November 9, 2015.

<sup>211</sup> *Ibid.*, 173

<sup>212</sup> Brzoska, Michael. 2002. "Climate Change and the Military in China, Russia, the United Kingdom, and the United States." *Bulletin of the Atomic Scientists* 68 (2): 43–54. <https://doi.org/10.1177/0096340212438384>.

<sup>213</sup> *Ibid.*

<sup>214</sup> St. Petersburg, the second largest city in Russia, is particularly vulnerable to flooding and sea level rise

<sup>215</sup> Fleischer, Matthew. 2014. "How Curbing Climate Change Can Prevent Russia from Becoming a Superpower." *Latimes.Com*. March 12, 2014.

<sup>216</sup> *Ibid.*, 193

<sup>217</sup> *Ibid.*

only ones affected by climate change and poor economic practices. The human factor should not be ignored either. Those who will be most affected by the Arctic ice melt are the four million people living in the Arctic, including the 400,000 indigenous persons, 80% of which are located in Siberia<sup>218</sup>.

A poor institutional response to global climate change will also cause geopolitical difficulties for Russia. The destabilizing effects climate change will have on global stability and migration are concerning, but especially in terms of the potential exacerbation of instability in Central Asia<sup>219</sup>. Russia has already stated its concerned about drug trafficking and radical extremism migrating from Afghanistan to Central Asia, in particular the Taliban's assistance to Chechen rebels<sup>220</sup>. Central Asia is geopolitically important because of its proximity to world powers and its natural resources. Researchers Lioubimtseva and Henebry argue that Central Asia is particularly vulnerable to climate change because of an arid geography, under development due to reliance on agricultural exports, and social upheavals after state independence in 1991<sup>221</sup>. Many are also concerned with the mismanagement of the water system, unequal distribution of natural resources in the region, population growth and the exacerbation of youth unemployment, and future effects of extreme weather on food and energy stability<sup>222</sup>. Significantly, the majority of people in Central Asia still live in poverty with rampant unemployment are compounded by the lack of economic opportunity; notably, this has caused some instability and has forced some labor

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<sup>218</sup> Ibid., 23

<sup>219</sup> Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan, and Kyrgyzstan. Sometimes this includes Afghanistan as well

<sup>220</sup> The Ministry of Foreign Affairs of the Russian Federation. 2018. "Foreign Minister Sergey Lavrov's Remarks at the UN Security Council Session on 'Formation of Regional Partnerships in Afghanistan and Central Asia as a Model of Coordinating Security and Development,' New York, January 19, 2018." January 19, 2018..

<sup>221</sup> Lioubimtseva, E., and G.M. Henebry. 2009. "Climate and Environmental Change in Arid Central Asia: Impacts, Vulnerability, and Adaptations." *Journal of Arid Environments* 73 (11): 963–77.

<sup>222</sup> Chikalova, Lidiya. n.d. "CLIMATE CHANGE AS A POLITICAL THREAT MULTIPLIER IN CENTRAL ASIA," 16.

outmigration into Russia already, especially from the three least financially stable states: Tajikistan, Uzbekistan, and Kyrgyzstan<sup>223</sup>.

The stability of Central Asia is vital to Moscow for several reasons. First, the 55 million people in Central Asia are predominantly Muslim<sup>224</sup> and exist in close proximity to ideological extremism found in the Middle East. This extremism takes root in economically destitute regions with low employment and opportunity for young citizens, conditions under which the majority of Central Asians live. Second, as of 2016, over 90% of the world's heroin originates in Afghanistan, the grand majority of which will be transported through Central Asia<sup>225</sup>. While drug trafficking constitutes a basic security concern to Russia, it is often accompanied by organized crime and government corruption, a disquieting trend in a region known for its weak political institutions. Third, stability in Central Asia is crucial to Russia considering the volume of trade between Central Asia and Russia, with Russia mainly importing raw materials from Central Asia and exporting finished goods back to their southern neighbors<sup>226</sup>. A disruption to this supply chain could be detrimental to Russian exports.

Even though these are the current issues affecting Central Asia that are concerning to Russia, the effects of climate change will exacerbate these issues and could induce instability in the region. For example, agriculture comprises 20-40% of each Central Asian country's GDP; 22 million of the 60 million inhabitants of the region depend on the agricultural industry either directly or indirectly<sup>227</sup>. A wildfire or drought could be devastating to a region so dependent on that particular industry. While Kazakhstan and Turkmenistan are considered stable, all five

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<sup>223</sup> Saferworld. 2015. "Central Asia at a Crossroads."

<sup>224</sup> Central Intelligence Agency. 2015. "Field Listings: Religions." *The World Factbook* — Central Intelligence Agency. 2015.

<sup>225</sup> Roy, Meena Singh. 2001. "Russia and Central Asia: Problems and Prospects." *Strategic Analysis* 25 (3): 451–64.

<sup>226</sup> Atlas Media MIT. 2015. "OEC - Russia (RUS) Exports, Imports, and Trade Partners." 2015.

<sup>227</sup> Boonstra, J., 'Environmental Security in Central Asia: One Bucket at a Time', EUCAM, issue 13, October 2012.

national economies are also vulnerable to internal and external shocks<sup>228</sup>, bearing in mind the region's reliance on agricultural exports. These economic shocks can have detrimental consequences on the stability of Tajikistan, Uzbekistan, and Kyrgyzstan; significantly, this comes at the heels of some signs of instability in the region such as ethnic clashes in Kyrgyzstan and issues on the Tajikistani-Afghanistan border pertaining to narcotics and terrorist activities<sup>229</sup>. Especially with the absence of effective political institutions determining political succession<sup>230</sup>, climate change can light a fuse on a powder keg in Central Asia and potentially create an outmigration from Central Asia into Russia, especially those who are ethnic Russians. Migration can cause increased competition in the economy, racial tensions, and strain on the labor market. Internal migration to Moscow and St. Petersburg has already instigated increased xenophobia and hostility between ethnic immigrants from Central Asia and Russians with nationalist leanings<sup>231</sup>. The severe impacts of climate change in the Arctic, Russia, and Central Asia make a convincing argument to heed this environmental drilling ban by forcing Russia to face the long-term implication of unchecked climate change. Additionally, this territorial claim suspension and environmental ban allows the improvement of drilling technology, including improved designs of hydrocarbon production facilities that are not susceptible to melting permafrost, and time for a regional scientific council to determine the territorial claims in the Arctic.

**Conclusion:**

This thesis was born of a desire to apply structural realism in a real-world situation and to try to understand climate change's role in international relations theory, especially in regard to

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<sup>228</sup> Ibid., 212

<sup>229</sup> Ibid. 223

<sup>230</sup> Ibid.

<sup>231</sup> Joint Global Change Research Institute, Battelle Memorial Institute, and National Intelligence Council. 2009. "Russia: Impact of Climate Change to 2030 A Commissioned Research Report."

power politics. One of the biggest frustrations in international relations theory is the supposed ignorance of realities that are prevalent in our day-to-day lives. Nowhere is this more prevalent than in the way that realism has dismissed climate change. This is also a symptom of a larger issue in this paper. While political scientists have commented on how institutions are consequential, there is a lack of literature pertaining to how states can use institutions to pursue their interests and constrain other states in realism. Part of realism's draw is its parsimonious simplicity that the structure of the international system is the only important variable that affects how states behave. However, why isn't climate change considered as part of the structure international system and therefore a relevant topic in realism? The current geopolitical situation in the Arctic was precipitated by the way climate change has affected the physical and geopolitical environment and therefore the way states interact in the international system. Without climate change this thesis would be irrelevant since the Arctic would still be an impassible, brutal landscape with no cost-effective way to extract its resources, relegating it to the backdrop of international affairs.

The opening of the Arctic to economic exploitation due to climate change has created a security dilemma where Russia has imposed their military influence in their Arctic sector, with their neighbors, most notably the U.S., lagging far behind. Russian militarization and the subsequent rising tensions between the Arctic Five is a function of how climate change has affected the Arctic. Russia's militarization of the Arctic was the catalyst for the need for a political agreement, especially considering Russia's recent actions to assert its influence over international affairs and the domestic politics of foreign states. Therefore, it is in the best interests of these states to halt Russia's militarization and accumulation of economic capabilities while improving their own power and influence in the region in order to correct the balance of power in the Arctic. Unfortunately, UNCLOS' broadness and lack of clarity renders it ill-equipped for governing the High North, making a new political agreement a necessity.

While resource sovereignty was the primary commonly preferred outcome of the Arctic Five, all of the Arctic Five have also stated their commitment to a peaceful and cooperative Arctic, which is rational considering both the detrimental effects of war and the complications of warfare and operations in the Arctic environment. Additionally, the inclusion of the importance of environmental sustainability in each of the Arctic Five's national Arctic policies allows an avenue for a rhetorical argument based around climate change. To constrain Russian, the analysis of UNCLOS and the ATS provided a few provisions to ensure the success of this political agreement.

The importance of this agreement lies not only in the attempt to reconcile solvable problems to prevent needless conflict, but also to rectify the role of institutions in power politics to demonstrate not only can they coexist, but in fact structural realism and liberalism can enhance each other. Realism has been hamstrung in the sense that it has previously only cared about military and economic capabilities in how states asserts its influence over others. While this is no doubt accurate, it is an incomplete notion and has ignored the ability of states to utilize liberal concepts such as reciprocity, institutions, and cooperation in order to achieve their interests. As our world changes and non-state actors such as climate change start to become more salient in international affairs, it is essential for international relations theory to adapt to these changes and to use them to our advantage.



APPENDIX

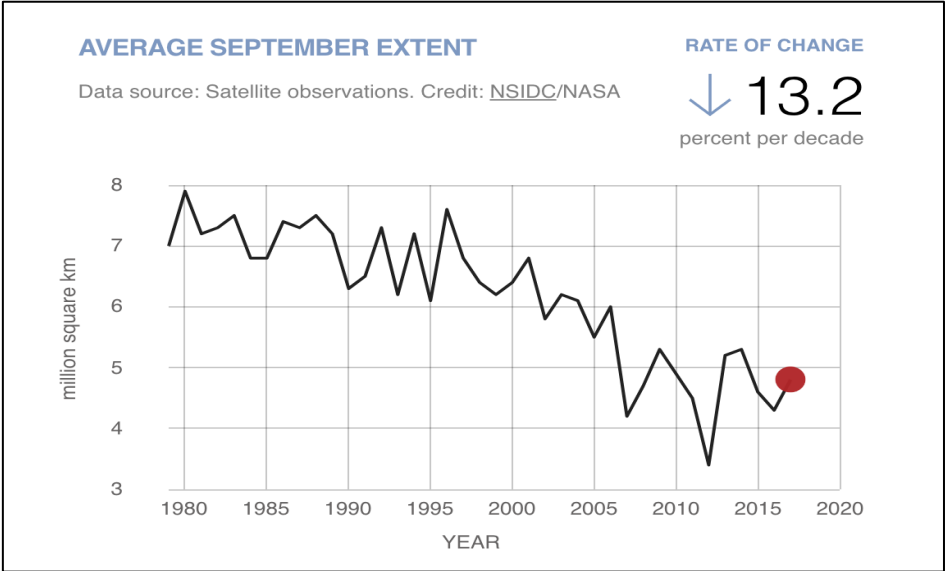


Figure 1: Average September Extent of Arctic Sea Ice Levels

Source: NSIDC, NASA. 2018. "Arctic Sea Ice Minimum." Global Climate Change: Vital Signs of the Planet. 2018. <https://climate.nasa.gov/vital-signs/arctic-sea-ice>.

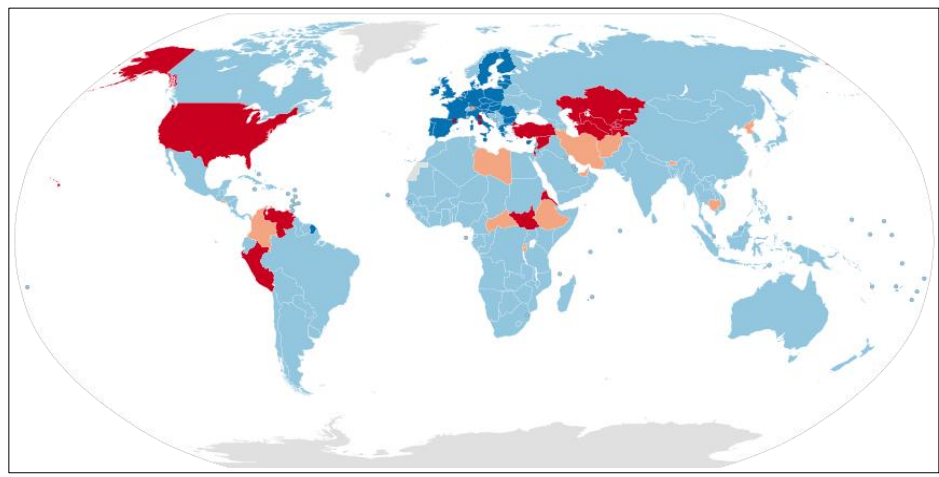
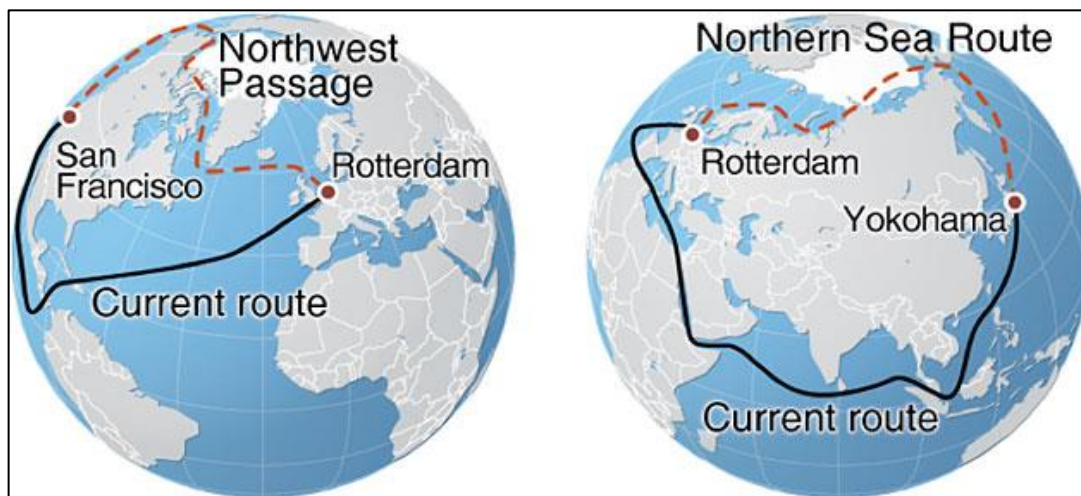


Figure 2: UNCLOS Member States

Light Blue = Parties, Dark Blue = Parties and members of the EU, Orange = Signatories, Red= Non-parties

Source: Canuckguy and Danlaycock. "List of parties to the United Nations Convention of the Law of the Sea." February 2015. Public Domain.





*Figure 3: Northern Sea Route and the Northwest Passage Compared with Currently Used Shipping Routes*

Source: UNEP/GRID-Arendal, June 2007. 2010. "Northern Sea Route and the Northwest Passage Compared with Currently Used Shipping Routes." June 6, 2010. <http://www.globalissues.org/article/740/dominance-in-the-arctic>

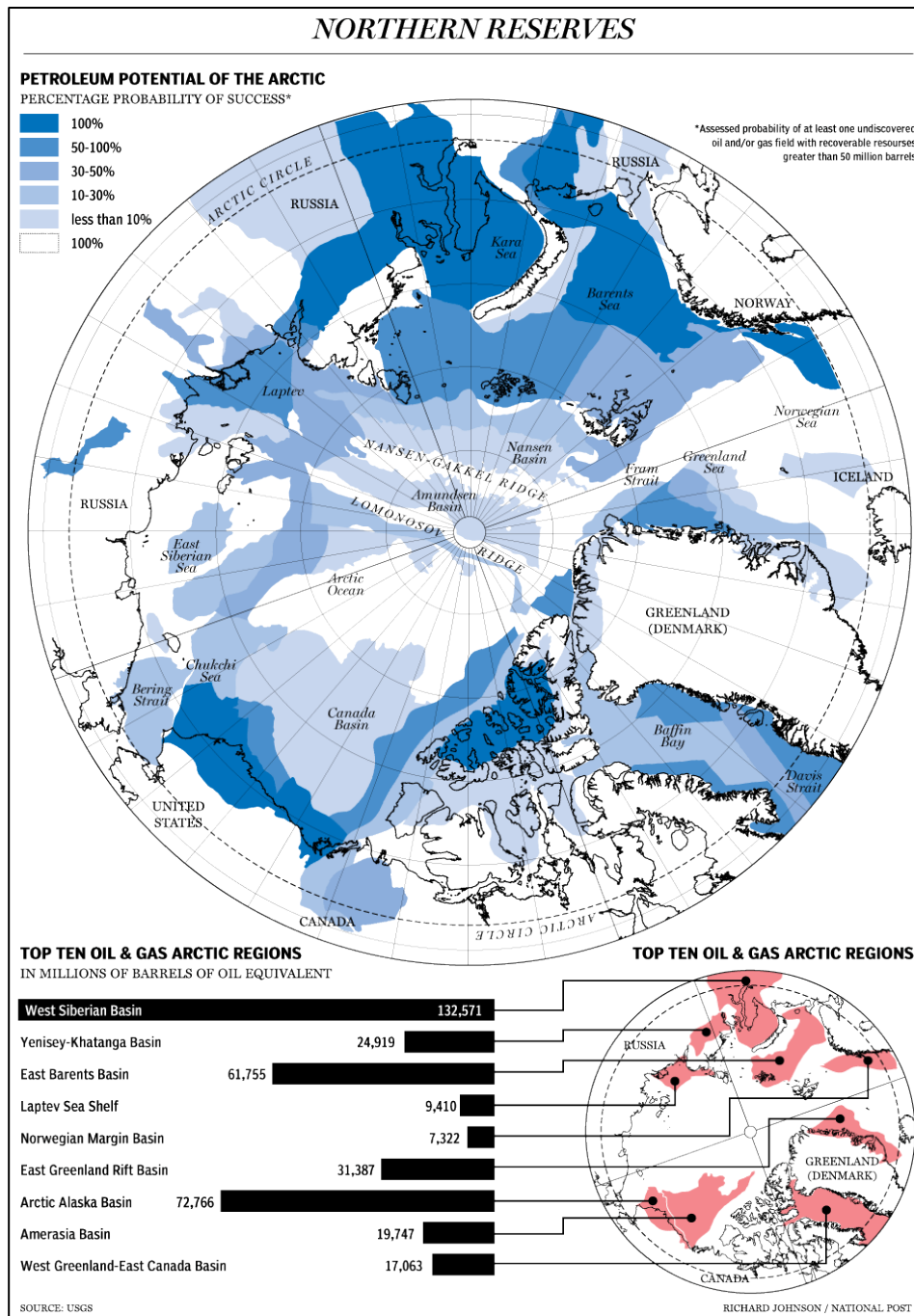


Figure 4: High North Oil and Gas Reserves

Source: Hussain, Yadullah. 2012. "The Global (Sled) Race for the Arctic's Oil and Gas Riches | Financial Post." Financial Post. July 27, 2012. <http://business.financialpost.com/commodities/energy/arctic-the-great-sled-race>

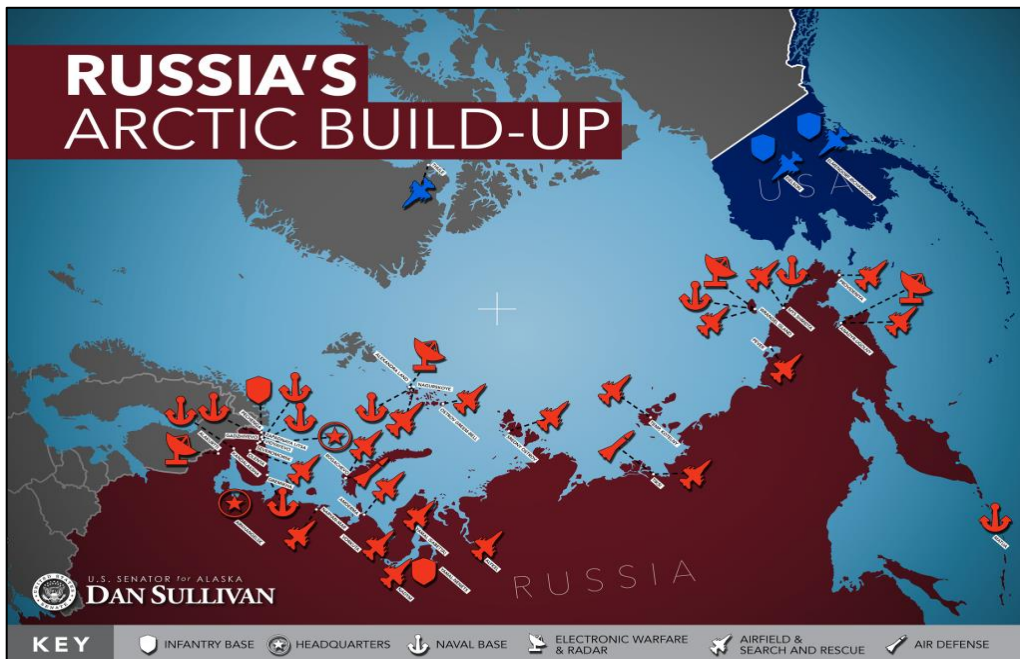


Figure 5: Russian Militarization of the Arctic

Source: Gramer, Robbie. 2017. "Here's What Russia's Military Build-Up in the Arctic Looks Like." *Foreign Policy* (blog). January 25, 2017. <https://foreignpolicy.com/2017/01/25/heres-what-russias-military-build-up-in-the-arctic-looks-like-trump-oil-military-high-north-infographic-map/>.



Figure 6: Arctic Search and Rescue Areas of Application

Source: Østhagen, Andreas. 2017. "Establishing Maritime Boundaries in Arctic Waters." The Arctic Institute. December 19, 2017. <https://www.thearcticinstitute.org/establishing-maritime-boundaries-arctic-waters/>.

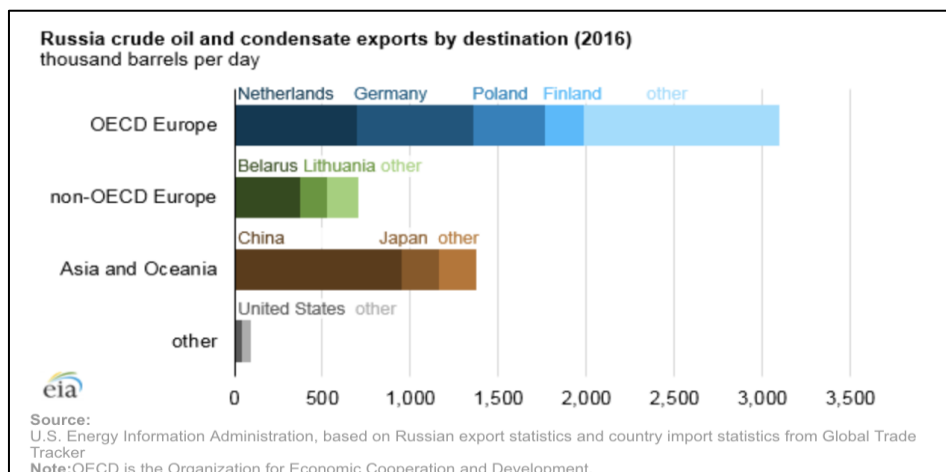


Figure 7: Russia Crude Oil and Condensate Exports by Destination

Source: U.S. Energy Information Administration. 2017. "Russia Exports Most of Its Crude Oil Production, Mainly to Europe - Today in Energy." EIA Independent Statistics and Analysis. November 14, 2017. <https://www.eia.gov/todayinenergy/detail.php?id=33732>



Figure 8: Current Arctic Territorial Claims

Source: Arctic Territorial Claims; International Defence, Security and Technology. 2017. "The Melting Ice Has Brought Arctic into Geostrategic Prominence, Russia Quickly Projects Its Military Power." Geopolitics. 2017. <http://idstch.com/home5/>



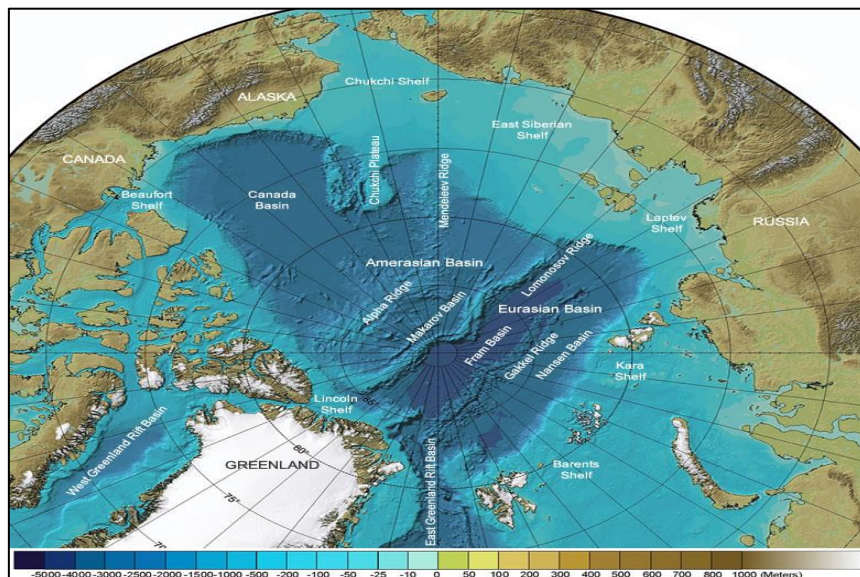


Figure 9: Arctic Ocean Seafloor Features Map

Source: Stanford University School of Earth Science. 2010. "Structural Geology and Tectonics." Plate Tectonic Evolution of the Amerasia Basin, Arctic Ocean. 2010. [https://earthsci.stanford.edu/research/groups/structure/research.php?rg\\_id=33&rgpr\\_id=47](https://earthsci.stanford.edu/research/groups/structure/research.php?rg_id=33&rgpr_id=47).

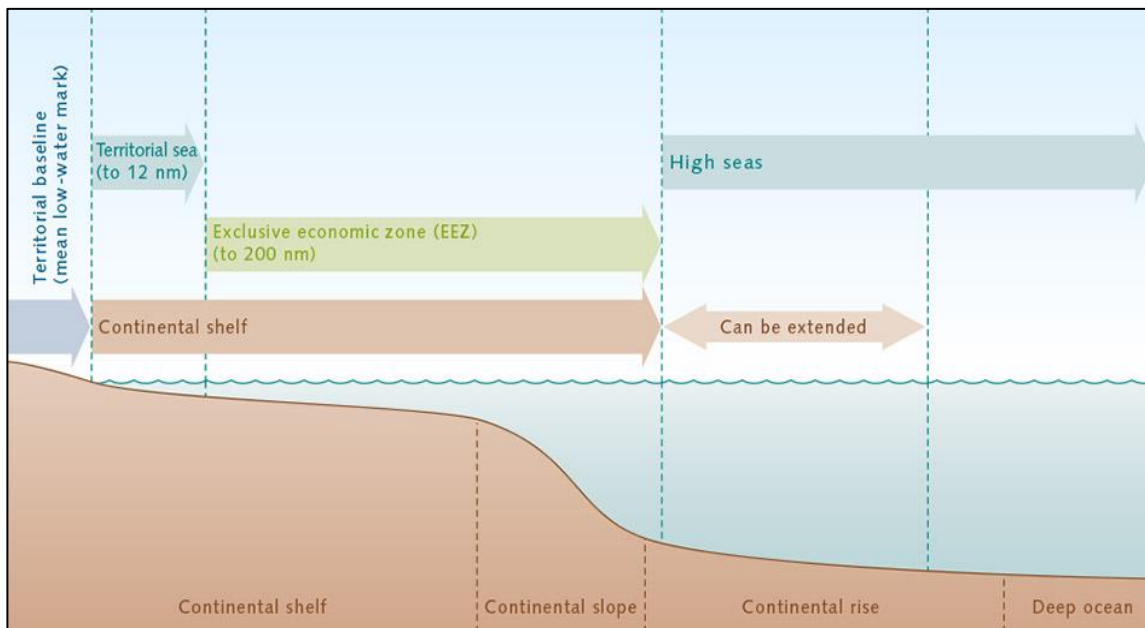


Figure 10: Jurisdictional Zones as Defined by UNCLOS: Part VI

Source: Jurisdictional Zones as Defined by UNCLOS: Part IV. World Ocean Review. 2014. "World Ocean Review: International Commitments." Environment and Law. 2014. <https://worldoceanreview.com/en/wor-3/environment-and-law/international-commitments/>.

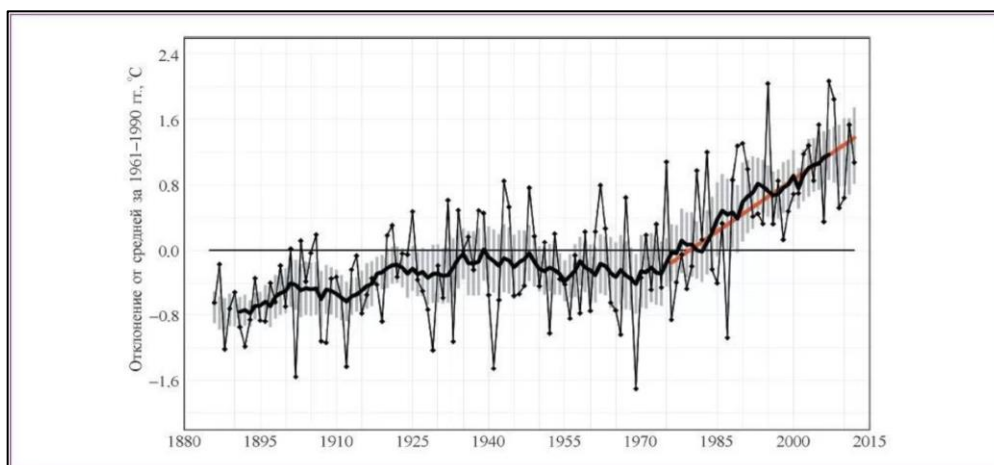


Figure 11: Russian Average Temperatures 1880-2012

Source: Frolov, A. V., et al. "Second Assessment Report of Roshydromet on climate change and their consequences on the territory of the Russian Federation." Moskva. <http://voeikovmgo.ru/download/2014/od/od2.pdf>.

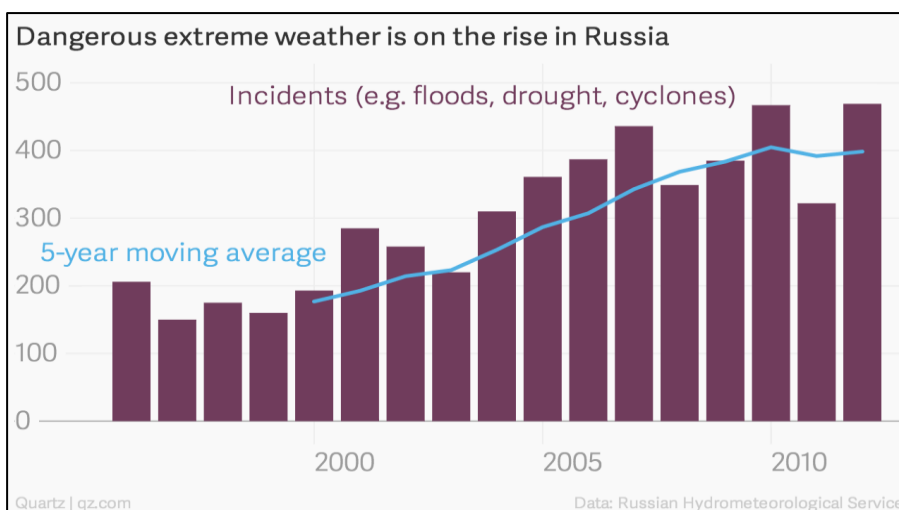


Figure 12: Extreme Weather in Russia

Source: Guilford, Gwynn. 2014. "Russia's Warming Faster than the Rest of the Planet—and Seeing Disease, Drought, and Forest Fires as a Result — Quartz." Quartz. August 26, 2014. <https://qz.com/256020/russias-warming-faster-than-the-rest-of-the-planet-and-seeing-disease-drought-and-forest-fires-as-a-result/>

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