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Climate Security in an 'Anthropocene Arctic'

Justin Barnes
Research Fellow

An "opening Arctic" has had scholars and security practitioners scrambling to determine the threats an ice-free Arctic Ocean pose to state sovereignty, as well as how to manage a multitude of current and future risks to northern peoples.[1,2,3] While the region has been described as "exceptional" in terms of its relative peace and stability since the Cold War, globalization and climate change are making Arctic geopolitics more global than ever before.[4] In recognition of the wide variety of interconnected challenges facing the region, climate change has increasingly been called a "threat multiplier" to describe the unpredictable and increasingly challenging future it poses both inside and outside the Arctic.[5,6] Scholars and practitioners have grasped onto the practice of climate security to help articulate a practical understanding that climate change and its widespread implications have the ability to amplify existing security risks to humans, ecosystems, and societies.

International organizations operating in the Arctic such as NATO and the Arctic Council have explicitly acknowledged the various threats to nature, human well-being, and state security that climate change presents in the Arctic.[7,8] However, as organizations like NATO and the Arctic Council grapple with how to manage both state and non-state related security challenges in the region, debates are being had amongst scholars and practitioners about the ability, and the suitability, of current governance and security institutions for managing the region's human and state security related issues.[9,10,11] A growing aspect of this debate circles around the ontological limitations of governance organizations today, limitations that are rooted in entrenched understandings of their material and social realities, also understood as their worldview.

Westphalian sovereignty, for example, is a dominant ontology, or worldview that limits governance possibilities since it presumes a narrowly defined and hierarchical order of human relations within state boundaries that does not permit space for other social, geographical and political ways of ordering human and human-environment relationships. In other words, today's international society favours state sovereignty and its related features, including territorial boundaries and the independent authority of states within those boundaries. Despite their differences, NATO and the Arctic Council are organizations that exist to maintain state sovereignty and control in their spheres of influence. Sovereignty reflects stability, rigidity, control, and precision. Climate change, however, is a complex problem that is inherently unstable, rapidly changing, disordered, and transboundary in nature. For NATO and the Arctic Council to maintain state and human security (concepts that are rooted in notions of state sovereignty) in the context of climate change (an inherently

transboundary phenomenon), there are inevitable tensions that need to be understood and addressed, particularly in places experiencing rapid climatic and societal change like the Arctic.

This policy primer seeks to confront the present-day practice of 'climate security' in the Arctic by examining how NATO and the Arctic Council perceive the challenges they face and their roles in addressing them. It will situate how these two organizations approach climate security in the context of emerging literature on security in the Anthropocene, a new epoch representative of how human activity has begun rivaling geologic forces. The Anthropocene perspective applied in this policy primer highlights the demand for solutions that are transboundary and require longer time horizons, solutions that do not fit neatly within current notions of state sovereignty and economic development. By shifting the level of analysis to one that highlights human interactions with planetary systems on the geological time scale, this policy primer identifies various limitations and contradictions in the ongoing climate security debate that are important for policy-makers in Canada and across the Arctic to consider. This policy primer argues that NATO and the Arctic Council, the two most prominent Arctic-mandated international organizations, should consider ways to reform that sufficiently accommodate the implications of planetary-scale challenges such as climate change.

'Climate Security' and the Arctic

As the UK took over the Chair of the UN Security Council (UNSC) in February 2021, Prime Minister Boris Johnson presided over a high-level open debate titled "Addressing climate-related security risks to international peace and security through mitigation and resilience building". This event would renew discussions about the framing of climate change as a security issue, the implications of framing it as such, and what the UNSC's position regarding the link between climate change and security ought to be. Although UNSC member states have not yet agreed on what the Security Council's role should be in addressing climate change, member states who support its engagement on climate change issues emphasize how drought, water scarcity, food insecurity, and desertification have the potential to increase the risk of conflict around the world.

Research in the climate security field has reinforced links between climate change and increased risks related to violence, instability, vulnerability, marginalization, and displacement[12] but debates taking place at multiple levels of governance are raising questions about where and how existing institutions might fit when addressing climate change related threats to society.[13,14] These debates require clarification on what is being secured, and on a deeper level, raise concerns about if and how current governance and security institutions can successfully manage the complex, interconnected, but also sometimes context-specific problems posed by climatic and ecological change.

The widened security agenda has been useful in a number of fields for helping to establish diverse ideas of what security is, especially in terms of what is to be secured, and for whom. Conceptions of political, military, environmental, and human security are contested in a variety of different fields, and have been used for operationalizing policy approaches and focusing attention on some of the greatest challenges society faces today. Climate security, though, operates more broadly than some of these concepts, and has emerged from the premise that climate change and its widespread implications have the ability to amplify existing security risks to humans, ecosystems, and societies. The practice of climate security is meant to match the complexity

of climate change itself: it is both multi-scalar and context dependent, and responds to threats to human and state security both separately and simultaneously.[15,16] As Busby[17] and Dellmuth et al.[18] have noted, despite its complexity, climate security has become a key approach for articulating the overlapping and interconnected nature of climate change-related threats within primarily two expressions of security: human security and state security.

In the Arctic context, climate security concerns on the state level primarily include issues surrounding military capabilities and readiness, the geoeconomics of energy and energy transitions, and the potential for climate change to alter the geopolitical and territorial security situation in the region.[19,20,21,22] On the other hand, local level climate security implications are often articulated in terms of threats to human security, including those posed by accelerated landscape transformations, limited access to safe water supplies, heightened food insecurity, and challenges regarding adaptation and building resilience in the face of climatic and societal change.[23,24,25,26] This dichotomous understanding of climate security can be identified in the way threats to the Arctic are framed by scholars and practitioners, as well as by the distinct roles that NATO and the Arctic Council play in addressing them.

NATO - State Security

Following the tragedies of World War II, NATO was created in 1949 by the United States, Canada, and several western European countries to provide collective political and military security in relation to the Soviet Union. This international treaty organization would establish a collective security arrangement which expanded and modified itself throughout the Cold War to strengthen Western Allies' military capabilities and deter Soviet expansion. The Arctic, also referred to as the High North, would become a center of high strategic importance for the alliance during the Cold War due to the geographical proximity of the Soviet Union and the United States.[27] The breakdown of the Soviet Union and the end of the Cold War, however, would allow for the existing focus on great power rivalry in the Arctic to subside and for peaceful cooperation among Arctic states to become the norm (see Arctic Council below). Since then, NATO has gone through tremendous reflection, and in some cases reorientation, as its member states seek to align themselves against modern threats that include terrorism, large-scale migration flows, cyber-attacks, threats to energy supplies, and growing environmental challenges that have substantial security implications.[28,29]

According to NATO documents,[30] climate change is effectively repositioning the Arctic as a strategic priority for the treaty organization because its impacts have the ability to challenge the cooperative governance framework that has existed for almost three decades. Although NATO recognizes non-state centred security issues including challenges to human populations and biodiversity loss,[31] climate security in the Arctic from NATO's perspective is primarily about maintaining peace and stability in an increasingly accessible region of strategic importance to the alliance and to its potential rivals.[32] As the Arctic becomes increasingly accessible to actors interested in economic opportunities that include shipping routes, fishing, oil reserves, and minerals, NATO's ability to operate and ensure stability in this unique "operational domain" needs to be maintained as the region changes.[33] Concerns about Russian military build-up and Chinese economic influence and accessibility in the Arctic Ocean are also key state level dynamics shaping NATO's awareness of its own capabilities in the region.[34,35] In the context of rising great power competition globally, the potential for spillover

into the region from elsewhere in the world due to its increasing accessibility raises the economic, diplomatic, and security importance of the Arctic for NATO member states.[36]

Arctic Council - Human Security

The Arctic Council, whose mandate forbids military related debate, is the preeminent intergovernmental forum among Arctic states, Arctic Indigenous peoples, and other actors including observer states (non-Arctic states), corporations, and NGOs.[37] Founded in the aftermath of the Cold War, the Arctic Council was designed to promote peaceful cooperation, coordination, and interaction among Arctic states regarding emerging concerns of environmental degradation and expanding principles of human security during the late 1980s and early 1990s.[38,39]

Many scholars have discussed how initial cooperation and coordination was built around common environmental concerns, and how the *Declaration on the Establishment of the Arctic Council*[40] took a unique step to include Indigenous organizations as Permanent Participants of the intergovernmental forum. This was an unprecedented move which highlighted the recognition of community and local concerns concomitant with those of states, and included a ban on discussions of military security that was ultimately successful in shifting the focus of regional cooperation to common human security issues under the banner of environmental protection, sustainable development, and cultural vitality of northern peoples.[41] Human and environmental security have been considered to be the main driver for regional cooperation and policy making in the Arctic by various scholars, including Exner-Pirot who has argued that "the importance of human security in the Arctic is not theoretical. It is the bedrock upon which regional cooperation has been built." [42] In 2013, the Arctic Council reaffirmed its commitment to cooperatively manage human and environmental security concerns in its *Vision for the Arctic*, stating: "To meet the needs of an ever-changing Arctic we will further strengthen our cooperation in the fields of environmental and civil security".[43]

Threats from climate change are often articulated by the Arctic Council in terms of the rapidly changing living conditions it poses for the Arctic's 4 million inhabitants.[44] Building resilience has become a key conceptual component of the Arctic Council's work to ensure human security. This can be seen in the Arctic Council's Iqaluit Ministerial Declaration[45] which "[recognizes] that resilience and adaptation to climate change are critically important for Arctic communities." The Council's relatively recent *Arctic Resilience Action Framework* (ARAF) from 2019 identifies climate adaptation as a key aspect to building resilience, defining it as an "adjustment in natural or human systems, in response to climate change, which is intended to minimize disruption or take advantage of opportunities."[46] Sustainable development remains a key overarching theme to achieve these goals. The Icelandic Chair of the Arctic Council from 2019-2021 made sustainable development its overarching theme,[47] building off of the previous 2017-2019 Finnish Chair which recognized the relevance of the United Nations' Sustainable Development Goals (SDGs) to the work of the Arctic Council.[48] This sustainable development approach to building resilience has helped to place the Arctic Council's focus on maintaining community well-being through economic means, and was stated as a fundamental pillar for the Russian Chairmanship of the Arctic Council from 2021-2023 (prior to Russia's invasion of Ukraine, and the subsequent pause of Arctic Council activities on March 3rd, 2022).[49]

Climate Security in the Arctic from an Anthropocene perspective

NATO and the Arctic Council are emblematic of the current state-centric international system, and their work represents typical fragmented approaches to defining and managing security threats in what has been a relatively steady and predictable natural environment. For almost three decades the Arctic has experienced an exceptionally high level of geopolitical stability. Inaccessible terrain, vast distances, extreme weather, and multi-year sea ice has traditionally kept the Arctic remote,[50] helping to make certain types of interaction, cooperation, and interdependence among Arctic states easier despite conflict between them elsewhere in the world.[51,52] This high level of cooperation and interdependence among Arctic states has been understood as an Arctic environmental regime by some,[53] and as a regional environmental security complex by others.[54] These perspectives of the region have been consistently part of a larger post-Cold War narrative that holds various assumptions about how the Arctic is "exceptional" in world affairs, where common goals and initiatives outweigh conflict elsewhere in the world.[55,56] Under these assumptions, cooperation in the region has flourished over the years, reducing the likelihood of armed conflicts and serious disputes about national borders and state sovereignty. Climate change and technological advancement, however, are changing the environmental context of Arctic geopolitics, "destabilizing the ecological base on which the contemporary Arctic as a cooperative region supportive of human activity has been built".[57]

This phenomenon is reflective of current geopolitical thinking on the concept of the Anthropocene, a new geologic age representative of how human activity has begun to rival geologic forces, but also a lens which frames all future outcomes of the decisions we make today. Transformations associated with this new geologic epoch, including human-induced climate change, have the ability to trigger a series of tipping points that could irreversibly alter the balance of the Earth's systems[58] and become security issues for Arctic stakeholders.[59] An Anthropocene perspective emphasizes how climate change and other ecological changes are remaking the context in which international politics are taking place, questioning the structural dynamics which are causing the very changes being experienced.[60] For example, paradoxical dynamics associated with socioeconomic development, such as oil and gas development in the Arctic,[61] are evidence that current governance approaches have a difficult time reconciling competing priorities between the natural world and humanity. The evolving context of the Anthropocene in the Arctic raises questions about the flexibility and adaptability of current institutions for managing a complex future defined by constant, unpredictable change. According to Dalby, "non-stationarity" is the new normal in the Anthropocene: traditional planning assumptions of a "relatively stable environmental backdrop to human affairs" are no longer reasonable as "the past is an increasingly inadequate guide to the conditions human societies will face in coming decades".[62] This has significant implications for the provision of 'security' in both human and state terms.

In the Arctic context, the practice of climate security and its split between primarily human and state security is limiting the types of responses available due to the issue-specific nature of NATO and the Arctic Council. As Dellmuth et al. have identified, climate security issues which are multifaceted and multidimensional in nature do not typically fit comfortably within the mandates of existing international governance organizations.[63] Through a long-term Anthropocene lens, it can be seen how current notions of security, including how they play out in terms of seemingly innovative concepts of climate security, require organizations

to be reactive rather than proactive. NATO is reactive, for example, as its responsibilities do not lie in preventing climate change from getting worse (despite recent recognition of military GHG emissions), but rather through its mandate to ensure its forces' ability to operate and maintain stability in this unique "operational domain". Comparatively, the Arctic Council is not a forum for rallying cooperation around climate change mitigation, but rather tracking and managing the effects of climatic, environmental and ecological change on the regional level, understanding related implications for Arctic states and their peoples, and for promoting sustainable development, an approach that remains entangled with the dominant global economic order. Although the Arctic Council may recognize the intertwined nature of environmental and human systems more than most, it struggles to disentangle itself from dominant conceptions of development.

From this 'Anthropocene Arctic' perspective, the various possible futures posed by climate change and ecological degradation contradicts security concerns related to protecting current modes of production and consumption, shifts priority from territorial boundaries to planetary boundaries, and raises important questions about the ontological limits of contemporary governance structures in addressing the complex relationship between climate change and human systems. NATO and the Arctic Council, despite how effective they may be in their relative fields, are representative of political and economic dynamics bound within the international state system and are designed to respond to their issue-specific mandates. They are not intended to (1) manage the transboundary, complex, and highly uncertain outcomes of climate change and (2) enact the type of action needed to resolve their underlying causes. NATO and the Arctic Council are designed to preserve the political, territorial, and economic status quo as other aspects of the region change, and are consequently more suited to framing climate change threats in terms of their individual mandates rather than mitigating underlying structural dynamics creating the problems they face.

Implications for Policy

The recent outcomes of COP26 have shown that core economic and other state-level interests in the near term are continuing to take precedence over the increasingly unavoidable realities of what a 1.5^{o}C or 2^{o}C rise in global temperature average will mean for future generations. Of course, the realities of our global economic system have a direct influence on billions of lives, and transitioning away from fossil fuels (a sticking point at COP26[64]) and other climate change-inducing practices is a complex process regardless of their immediate impact on the environment and climate. Canada, for example, is a large player in the oil and gas industry and is expected to remain so for some time, despite recent challenges in the sector[65] and Canada's broad intentions to invest in a more sustainable and climate-considerate economy.[66] After all, the high quality of life that many Canadians enjoy is currently tied to that industry. These types of examples are numerous and complex. As the world seeks to find a balance between the requirements of the global economy and its impacts on the global climate, including the inevitable threats that future generations will face, policy-makers need to consider more deeply what this means in terms of how they formulate policies related to ‘climate security’.

In the Arctic context, as Canadian policy-makers contribute to NATO and the Arctic Council into the future, it is important that they reflect on the governance limitations they are encountering while attempting to address long-term transboundary challenges, and consider how Canada can promote more robust forms of socio-ecological governance in these forums. Applied to policy-making, an Anthropocene perspective

fundamentally challenges the dominant assumptions of the international system by encouraging a shift from the prioritization of individual states and the preservation of sovereignty and economic development towards the prioritization of planetary systems and the preservation of the environment for future generations. In other words, as our institutions seek to maintain 'security' in the context of climate change, policy makers need to think about human activities as an interactive and integral component of Earth's systems.[67,68]

Climate change cannot be truly addressed by reinforcing territorial claims in the Arctic with military might, nor by expanding human development through current notions of economic growth. An Anthropocene perspective might suggest that current institutions need to think about these questions from perspectives that lean more towards the worldviews of international organizations representing Arctic Indigenous peoples or that advance ideas surrounding environmental peacebuilding – a process which Arctic states have had lots of previous experience in, particularly following the Cold War. After all, NATO and the Arctic Council are not equipped (or designed) to manage the worldwide implications of climate change in the Arctic, such as those posed by global climate feedback loops resulting from accelerated permafrost thaw in the region.[69,70]

Although ground-breaking solutions may not be clearly identifiable yet, what this policy primer has argued is that a shift in perspective while developing policies is absolutely needed in order to find them. These types of discussions highlight how wider systemic changes are required, but they can also give a disheartening impression that the changes needed are so overwhelming they verge on the impossible. While changing the basic worldviews that underpin the international state system will be more difficult, alternative perspectives *do* have the ability to change the world. It is evident through the contradictions and limitations discussed here that new perspectives and worldviews are needed to do just that. As Albert[71] has argued, 'continuationist' perspectives held within the global political and economic system – that 21st century problems can be solved without major political-economic transformations to the world order – will not allow for meaningful enough action. Can the world be governed differently? Bishop and Payne,[72] for example, have argued that although globalization has progressed on neoliberal terms, these global scale dynamics must in theory be able to be "done differently". Indigenous scholars have also been articulating how the Indigenous rights movement has represented a shift in both the structure and practice of global politics, reminding us that the international state system is a relatively recent social structure in terms of human history, and thus can change and be reimagined.[73] In a region made up of relatively stable states, the Arctic could be a solid testing ground for policy-makers to apply Anthropocene thinking to future policy making and security planning.

Finally, while securitizing climate change might be an attractive option for legitimizing strong action by governments and international organizations, framing climate change issues as threats may be placing excessive focus on short-term dangers while ignoring the longer term, cumulating issues presented by this complex and enduring problem. Instead, from an Anthropocene perspective, it could be suggested that the preservation of current planetary systems needs to be normalized and become an essential baseline for politics and political cooperation on both global and regional levels. Centering policy-making within what we know about planetary systems and humanity's relationships with them could also create space for ethics-based rationales to be elevated, and for the already powerful norms which exist in the Arctic to be adapted to an Anthropocene context. For the Arctic Council in particular, a shift in paradigm could render the Council more capable of addressing the transboundary challenges we associate with the Anthropocene. For NATO, this means reflecting

on how cooperation across territorial boundaries can be realized, and how increased militarization to defend state boundaries can be limited. For future leaders, this could mean some kind of new or adapted comprehensive institution or forum that seeks to explicitly recognize the planetary flows and systems that we all rely on in every way. After all, societies have shown their remarkable ability to shift values and behaviours over time.

Could unity around managing the Anthropocene be the next phase of peaceful collaboration in the Arctic? Initiating high level collaboration has been done there before. As we move forward into an uncertain future, policy makers throughout the Arctic should consider how collaboration in the region can be renewed through the application of a more global, planet-focused, and long-term perspective of the issues we face in the Arctic and beyond.

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