

Introduction

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The world's polar regions are now central to geopolitical and strategic competition. Spillover effects from rapid political, social, and environmental change present unprecedented challenges for governance, environmental protection, and maritime operations in the Arctic and Antarctic regions. Both geographic areas can be distinguished by specific terms—namely, the “Arctic” and “Antarctica” (continental landmass)—and by more general descriptions that include adjacent waters and countries— the “circumpolar North” and “polar regions,” for example. Climate change in the polar regions has a direct impact on the geopolitical dynamics of what were previously areas of relative predictability but are now areas of transformation—not only in the environment, but also in how the international community operates. Hitherto little-known regions of inaccessible and extreme conditions—the “white stuff at the top [or bottom] of the map”—the Arctic, the Antarctic, and their associated marine environments are emerging as regions for exploration, exploitation, and extraction. Accordingly, this book captures the complex, multi-factorial framework behind the interconnectivity that is inherent, and increasingly apparent, between the Arctic and Antarctic.

Geopolitics and climate change now have immediate consequences for national and international security interests across the Arctic and Antarctic regions (Heininen and Exner-Pirot 2019; McGee, Edmiston, and Haward

2021). This volume takes a comparative approach by harnessing insights from international research and policy to address geostrategic challenges in the polar regions: Antarctica and the Southern Ocean, as compared to the Arctic and the circumpolar North. Contributors to this volume include international defence experts, scientists, academics, policy-makers, and decision makers who assess the strategic, political, scientific, economic, and environmental challenges of managing the polar regions.

Our comparative approach, which entails identifying emerging patterns of commonality and divergence across the polar regions, is intended to inform evidence-based strategic policy options. To this end, the chapters enhance domain awareness, address challenges, and inform policy options by comparing the state of strategic thinking on Antarctica and the Southern Ocean with that of the Arctic and the circumpolar North. We discuss the strategic issues for policy-makers with the aim of shaping a new paradigm in geo-strategic thinking, strategic policy, and strategy development.

This book has a blunt and simple message: once an afterthought banished to the global periphery, the polar regions are now the subject of intense geopolitical interest (Dodds and Nuttal 2016). Few states previously engaged in the formation of diplomatic entities overseeing the polar regions, but the community of polar states has grown as the Arctic and Antarctic regions garner greater international attention. The Arctic Council's eight permanent members, comprising five Arctic Ocean littoral states as well as three countries with territory on or above the Arctic Circle (Axworthy, Koivurova, and Hasanat 2012, 127; Bloom 1999, 712), are now joined by thirteen observer states (Barry et al. 2020, 2; Graczyk and Koivurova 2014; Śmieszek and Koivurova 2017). Although, conventional defence and security issues are specifically precluded from this framework, in the aftermath of the Cold War the Arctic Military Environmental Cooperation project provided a forum for Russia, the United States, and Norway to address military-related environmental concerns.

At the time of writing, the work of the Arctic Council has been paused because of the current Chair's (Russia) invasion of Ukraine and general condemnation from all Arctic states. What the future holds for this cooperation is open to speculation, although hopes are then it will be sufficiently robust to survive or regroup in effective ways. This volume acknowledges this uncertainty, but it does not essentially change its message.

The original twelve signatories of the 1959 Antarctic Treaty are now complemented by seventeen additional states with the same consultative rights under the treaty and a further twenty-five states with observer status (Peterson 1988; Joyner 2021). This penumbra of associated states—a mixture of the earnest and the opportunistic—adds complexity to the emerging geopolitical competition and clash of ambitions among a growing number of state and non-state actors.

The important environmental and resource issues confronting, in their different ways, the Arctic (ACIA 2004; AMAP 2010) and Antarctic (Chown et al. 2022; Gutt et al. n.d.) should not deflect from looming security challenges in the polar regions. Indeed, environmental and resource issues amplify growing competition and will require policy-makers, for whom the polar regions are not usually top of mind and who often possess an inchoate understanding of these regions, to develop comprehensive strategies that address geopolitical, environmental, and resource issues in a holistic way (McGee, Edmiston, and Haward 2021).

Why and how have the polar regions become an active arena of national self-interest? This book applies lessons learned to date in the Arctic, where strategic competition is entering an acute phase, to sharpen our strategic thinking about the Antarctic, which has thus far played something of a sleepy polar cousin—and vice versa. Both the Arctic Council and the Antarctic Treaty have their origins in the Cold War, although significant diplomatic efforts have been made to minimize those problematic roots and construct a narrative that rewrites the history of these organizations as soft, inclusive international initiatives focused on scientific co-operation and environmental protection.

The Arctic Council, with its eight member states, each possessing Arctic territory—Canada, Denmark (representing Greenland), Finland, Iceland, Norway, Russia, Sweden, and the United States—and precursors such as the Arctic Environmental Protection Strategy, articulates concerns for sustainable development, environmental protection, and the needs of Arctic Indigenous communities. In contrast to the Antarctic, in the Arctic the presence of local Indigenous residents with legitimate claims to land and maritime resources is a key aspect of governance dynamics. The Arctic Council admits non-Arctic observer states—there are currently thirteen—provided they recognize the eight Arctic states' sovereignty,

sovereign rights, and jurisdiction in the region, and, particularly, the application of the United Nations Convention on the Law of the Sea to the Arctic Ocean.

That said, China's and Russia's designs on both poles present an extremely problematic new strategic context insofar as both countries have demonstrated a realist proclivity for subjugating international law to their pursuit of strategic objectives (Sheikh, Vaughn, and Procita 2021, 2–3). In the maritime domain in particular, China has a proven track record of flouting—if not ignoring altogether—its international obligations under the Law of the Sea Treaty, instrumentalizing them as “lawfare” (a major component of its strategic doctrine), and using tactics designed to gain advantage from the greater compliance leverage that international law and its processes exert over China's rivals (Kittrie 2016, 166). Ergo, China's recent ascent to observer status within the council as a “near Arctic” state is a particular cause for concern for all eight original members, including Russia (Lanteigne 2022). Attempts by China and Russia to game the international rules-based order bode poorly for the poles' international governance regimes and the prevailing narrative that characterizes these regions as zones of peace and stability (Hoogensen Gjørvi, Lanteigne, and Sam-Aggrey 2020). Although both areas have remained peaceful to date, Russian activities in the Ukraine have nevertheless resulted in the suspension of Arctic Council meetings under Russia's chairmanship.

Yet, those engaged in polar science and policy-making remind us that problems tend to result from the simplification of geopolitical perspectives. Without meaningful observer participation from China, as well as other large and essentially non-polar observer states, the Arctic Council is rendered ineffective and indeed irrelevant: “The core issue here goes well beyond the rules governing permanent observer status in the AC. Given the economic and political shifts occurring at the global level today, there is no way to address Arctic issues successfully without recognizing the heightened connectivity between the Arctic and the global system” (Kankaanpa and Young 2012, 12). In other words, Arctic security must be understood in a larger context, including with reference to existing frameworks for managing conflict.

The same is true of the Antarctic. Indeed, as comprehensive studies of geopolitical futures (e.g., McGee, Edmiston, and Haward 2021) and

historical pasts (e.g., Antonello 2019) in the Antarctic show, the intersection between geopolitics, security, and changing environmental conditions have been shaped by the definition and use of existing structures. Over time, diplomats and scientists thought about the Antarctic environment and Antarctic space, and how they attempted to use it for geopolitical and institutional advantage. That said, the extent to which climate change is likely to further exacerbate geopolitical tensions across both poles and their adjoining oceans is staggering (Borgerson 2008; Dodds 2012; Young 2009). In the Arctic, climate change has the potential to open the region to resource exploitation and shipping in ways that were inconceivable only a few years ago (PAME 2009, 2020; Lasserre and Faury 2019). Thanks to modern technology, oil and gas are now potentially exploitable in the Arctic Ocean, and the prospect of year-round transit through the Russian-controlled Northern Sea Route is now within view (AMAP 2010, 12; Faury and Cariou 2016, 229).

In the southern polar region, geopolitical developments resulting from profound economic, political, and environmental change are also being forecasted (Press 2015). The original attributes of the Antarctic Treaty have now been overlaid by further treaties and conventions in what is known as the Antarctic Treaty System (ATS). These are nearly all to do with environmental protection and marine fisheries management. As such, they effectively detract from the initial objectives of banning military activity and Cold War rivalries on the southernmost continent. This has been so successful that the treaty system is today often considered, in international law, the exemplar of the “common heritage of mankind” principle. However, the use of that term with respect to Antarctica leads directly to the proposition of mining in the Antarctic, which like-minded states would rather avoid. Moreover, countries that have Antarctic claims—in addition to the United States and Russia, who assert a right to such claims—would never apply that term to Antarctica. We might say, then, that geopolitical issues never really went away, and the argument has been made that the treaty’s structure facilitated the survival of national interests, albeit under the surface (Antonello 2019; Dodds 2012).

Both Russia and China are signatories to the Convention on the Conservation of Antarctic Marine Living Resources (CAMLR). The convention is the ATS’s main tool for realizing its objectives of protecting

the only currently exploitable resources of the region: marine life. The Commission for the Conservation of Antarctic Marine Living Resources, which created and monitors the CAMLR Convention, was established in 1982 because of concerns about Russia's exploitation of krill fishing, which had a direct effect on the populations of great whales. Meanwhile, Russia no longer fishes for krill or, as of late, in the CAMLR area for that matter. Although Norway currently dominates the Antarctic krill fishery, and the catch is an order of magnitude lower than the calculated sustainable yield of krill across the Antarctic, China is emerging as a major fishing country, and is particularly interested in krill to meet some of its requirements for protein.

Subsequently, toothfish, another easily accessible resource in Antarctic waters, has become a focus of the CAMLR Commission. At the height of illegal, unreported, and unregulated (IUU) fishing for toothfish, the fish were transferred directly to ports in Africa, Asia, and South America. IUU fishing for toothfish was one of the reasons China joined the Commission. After the introduction of the Catch Documentation Scheme for toothfish in the 2000s, the market for IUU fish changed as trade became more difficult, which coincided when transfers at sea became common practice. As a result, much of the toothfish catch was then mixed with the legal catch in transfers at sea and Indian Ocean ports where regulations are either looser or insufficiently enforced. Many intelligence analysts believe that most of this catch eventually finds its way to China. Over recent decades, the CAMLR Convention's supply-side controls have thus provided enabling cover for both Russia and China to strip marine resources from the region (Sovacool and Siman-Sovacool 2008). This will have deleterious ramifications for fragile ecosystems: China is bound to try to shape the Antarctic fishery into its own image as its demand for aquaculture protein increases.

While there are many similarities in the geopolitical tensions shaping both polar regions, in some areas there are real differences. These are equally important in understanding the relationship between the "polar cousins." Unlike the Arctic, where mining and oil drilling present great technical difficulties, in Antarctica they are prohibited indefinitely by the Protocol on Environmental Protection to the Antarctic Treaty. Yet, like its well-endowed Gondwana siblings—Australasia, South America, and Africa—the continent is thought to have a full complement of mineral

resources, possibly including (though as yet unverified) coal measures and hydrocarbons.

China has been playing the long game ever since first establishing an Antarctic base in 1984, and the nature of that game is indicative of the geopolitical future of the Antarctic (Brady 2017). China now has permanent stations in both East and West Antarctica. And it has been adamant about the need to strike a balance between protection and use of Antarctic resources. China's position is that environmental protection should serve the purpose of "reasonable and sustainable use." Chinese diplomat Wu Yulin (2009) has even argued that "the protection of Antarctica should not be simply interpreted as no use, rather environment protection should serve the purpose of reasonable and sustainable use. . . . The mining ban has won preparation time for China's peaceful use of Antarctic resources" (2009).

A simple reading of the situation might put the Arctic, say, a decade ahead of the Antarctic in terms of geopolitical competition. A more nuanced reading suggests that circumstances in the two regions differ—but that they are converging generally as a result of broader impacts of climate change and the global economy. Territorial issues, and military threats to, in, and through the Arctic remain prevalent as manifest in attention to renewing the North American Aerospace Defense Command's capabilities and to the strategic significance of the "High North" in the eyes of the North Atlantic Treaty Organization—but resource exploitation is rising in prominence. Geopolitical tension is, nonetheless, highly mediated by regional interests (Østhagen 2020), and these differ between Nordic/European, North American, and Russian contexts (Sheng 2022). Marine living resources are exploited in both the Arctic and the Southern Ocean. Climate change and global over-exploitation of marine living resources are likely to increase pressures to expand fisheries in the Southern Ocean in coming years. In contrast to the Arctic, exploitation in the Antarctic region is likely set to shift from the sea back to the land (Nicol 2002). Yet, as this volume shows, there is also a highly regional dimension to Antarctic geopolitics among Antarctic states, which are members of the ATS, much as there is in the Arctic, where interest in land-based endeavours has driven scientific exploration and investigation (Dodds 2012; National Research Council 1993, 14).

Given the complexity and transformation that is well underway, it takes a broad approach to inform multidisciplinary, comparative, and evidence-based strategic policy in the constituent arenas of geopolitics, environmental security, human resilience, sovereignty, and diplomatic discourse for the polar regions. Contributors to this volume review the state of strategic thinking and action on Antarctica and the Southern Ocean as well as the circumpolar North. They discuss the experience of participant nations and non-governmental organizations on geostrategic issues and focus on the awareness, understanding, and lessons learned so far. This complexity has not received widespread attention and is thus at high risk of leading to misinformed decision making. To inform underlying complex decision making, the contributions to this volume leverage insights from diverse disciplines, including political science, policy studies, strategic studies, geography, law, history, and environmental science, using a range of methodological approaches.

The book is organized into two main sections: one on circumpolar geopolitics and security in the polar North, and the other on the same topics as they relate to the Arctic's polar cousin, the Antarctic region, including Antarctica and the Southern Ocean. Each section begins with a prologue addressing the similarities and differences between the subjects of the different chapters as regards security, sovereignty and governance, and strategic planning and action, and these set the stage for the focused comparative discussion that follows.

The circumpolar North is distinguished by a long history of co-operation and collaboration among participant states, each with their own security self-interests and history. In the prologue to part 1, Randy Kee focuses on the nature of Arctic "exceptionalism" as it relates to the size, breadth, and depth of collaboration in diverse activities related to scientific research, economic endeavours, and governance. The region already hosts national military forces, and so alliances and partnerships are considered key attributes for the maintenance of sovereign rights.

The remainder of part 1 focuses on the polar North, but each of the four chapters seek to compare and contrast the Arctic region with its Antarctic counterpart. In the first chapter of this section, Douglas Causey, Randy Kee, and Brenda Dunkle explore the interactions among the environment, human resilience, and defence/sovereignty—components that together

comprise a tripartite environmental security complex. They discuss the dynamics of change in each of these components, the attendant geopolitical effects on the Arctic, and what to anticipate for the Antarctic region.

Owing to different histories, events, and geopolitical developments, the idea that there could be a singular “polar geopolitics” is misleading. Heather Nicol and Lassi Heininen explore how the geopolitics of the polar regions, over the past one hundred years in particular, has reflected a degree of convergence in terms of their mapping and exploration, environmental destabilization and rapid climate change, the rising importance of polar research (with its “focus on science”) as a strategic interest, and the role of non-polar states in regional governance.

Ilan Kelman discusses the concept of disaster diplomacy and its relationship with polar politics. Using Norway as a focus, he examines how multi-national collaborations for dealing with disasters are rarely successful for conflict resolution, including in the Arctic and the Antarctic. Instead, for Norway in the polar regions, science-related collaboration tends to be the most prominent interstate outcome of disaster diplomacy, with other co-operative disaster-related activities occurring, but not demonstrably leading to wider collaboration.

Greenland has come to occupy an increasingly prominent place in the public’s awareness of geostrategic decision making—particularly after a former US president suggested that it should be purchased. Dwayne Ryan Menezes explores why Greenland matters just as much to Denmark, Europe, and other northern allies as it should to the constituent partner states of both polar regions.

Part 2 of the book deals with the geopolitics, the security, and the changing environment of the southern polar region, and because relatively little is understood about these topics in an Antarctic compared to an Arctic context, the four chapters that comprise this section focus predominantly on the approaches of the two closest and most important regional allies: Australia and New Zealand.

In his prologue to this section, Tony Press identifies the considerable differences between the two polar regions, not only in terms of geography and history, but also the extent to which their unique governance structures are consequential. In contrast to the Arctic, where a system of layered governance prevails, the ATS provides a common, consensus-based

mechanism for the pursuit of national interests and aspirations. Press discusses which aspects of the ATS are working well, which aspects are increasingly being tested by Russia, China, and others, and which are not—either through active disregard or a failure of consensus.

In the next chapter, Joanna Vince explores the governance and sovereignty issues that Australia experiences with its Antarctic Territory and adjacent exclusive economic zone, which are not recognized by all the states active in the region. These governance issues have resulted in political tensions for claimant states over maritime boundaries, use of marine resources, and environmental protection.

Peter Layton begins his chapter by examining the current situation as regards geopolitical and environmental security in the East Antarctic regions that Australia claims; he then uses this as a basis from which to project the area's future course over the next twenty years. He offers four plausible geopolitical scenarios as examples of the possible consequences and realities that may play out based on today's reality.

The current laws and policy framework that enable environmental protection for Antarctica are strongly associated with the ATS. Robin Warner discusses key principles in global environmental law and their application to the southern polar region: namely, sustainable development, ecosystem-based management, the precautionary principle, and scientific environmental assessment. She analyzes how these principles and approaches have been incorporated, and how they may pose future challenges to the Antarctic environmental protection scheme.

Joe Burton then reviews the current direction of New Zealand's Antarctic policy, which he finds fraught with risk and contention as China and other powers become more assertive in the region. He explores hot spots and flashpoints that could precipitate conflict, summarizes key issues that small states such as New Zealand face, and discusses how small states can be pivotal advocates for rule-based actions by all participating countries.

The volume closes with a coda by Heather Nicol, Timo Koivurova, and Douglas Causey. They review the findings of the preceding chapters and examine the geostrategic importance of environmental governance in the northern and southern polar regions. While there is a deeper and more complete structure for collaboration and consensus among the participant states in the Arctic, and an active non-parliamentary organization

for oversight in the Arctic Council, the evolving situation in the Antarctic region is equally informative to its polar cousin.

More broadly, the book posits the world's polar regions as central to geopolitical competition in the future. It makes the case for a strategic approach that is, on the one hand, comprehensive and forward-looking and, on the other, given the similarities and comparisons described in the different chapters, treats the polar regions and their adjacent oceans as complementary polar cousins. Both premises amount to a paradigmatic change in how allies and partners discuss the two regions and broach the prospect of considerable benefits from more systematic and comparative learning experiences across the two poles. In the process, this edited collection aims to provide a baseline for strategic decision making and planning so that allies and partners can regain the initiative in the two most rapidly changing regions of the world.

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