



AUSTRALIA

Research Report

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# Antarctica at Risk

Geostrategic Manoeuvring and the Future of the Antarctic Treaty System



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# About This Report

The Antarctic is becoming a zone of contested governance. In this report, we examine the possible implications that geostrategic manoeuvring and competition in the Antarctic might have on the longevity and resilience of the Antarctic Treaty System (ATS). Leveraging open-source literature and a tabletop exercise (TTX), we explore relevant countries' interests and strategies in the region and issues that might emerge or be exploited over the coming decades. Although some aspects of the ATS—specifically, the Environmental (Madrid) Protocol—are potentially up for review in 2048, the future of the continent is likely to be decided in the intervening years by strategic-minded parties seeking to manipulate the lean mechanisms of the ATS. Given some of the public statements by various national entities, it is anticipated that there will be efforts by some actors to either recalibrate (*bend*) the ATS to their benefit or potentially render unworkable (*break*) the ATS and seek a new international instrument to govern Antarctic affairs.

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# Summary

## Issue

In this report, we seek to gain a deeper understanding of geostrategic manoeuvring and competition in the Antarctic in the coming decades and to consider the possible implications for the Antarctic Treaty System (ATS), a governance regime that seems increasingly ill-fitted to modern strategic dynamics. Although some aspects of the ATS—specifically, the Environmental (Madrid) Protocol—are potentially up for review in 2048, the future of the continent is likely to be decided in the intervening years by strategic-minded parties seeking to exploit susceptibilities in the lean mechanisms of the ATS. Given some of the public statements by various national entities, it is anticipated that there will be efforts by some actors to either recalibrate (*bend*) the ATS to their benefit or potentially render unworkable (*break*) the ATS and seek a new international instrument to govern Antarctic affairs.

## Approach

In this research report, we first examine the ATS itself, exploring the origins of Antarctic discovery and exploration, the International Geophysical Year and the groundbreaking Antarctic Treaty (AT). Next, we explore the AT's evolution into the ATS through the 1972 Convention for the Preservation of Antarctic Seals; the 1980 Convention on the Conservation of Antarctic Marine Living Resources; the 1988 Convention on the Regulation of Antarctic Mineral Resource Activities; and the 1991 Protocol on Environmental Protection to the Antarctic Treaty, commonly known as the *Madrid Protocol*. We next examine the ATS's structure and governance, exploring the role of claimant states and Consultative Parties, and highlight the strengths and weaknesses of the ATS. Then, we explore the debates surrounding the ATS's relationship with the United Nations (UN): specifically, whether the ATS should come under the UN's umbrella or largely stay outside it.

We then examine the Antarctic positions of 14 countries with close links to the Antarctic through claimancy, consultative status or sheer interest. We developed this section using open-source documentation. We purposefully included states with varying levels of interest, resourcing, global status and geographic locations, including those with divergent—even conflicting—perspectives on claim recognition.

We next describe our tabletop exercise (TTX), which was designed to play out potential scenarios affecting the future of the ATS. The TTX was developed and undertaken using a multiphase, scenario-based approach. Participants first used the country profile information we provided to establish the current baseline, which was used to identify friction points that formed the basis of the scenario. Two scenarios were consequently developed: a *bend* scenario that challenged the status quo within the confines of the existing international system and norms and a *break* scenario that challenged some of the international system's assumptions about the ATS.

## Key Findings

Our analysis explores what the implications for the ATS might be when the strategic interests of various countries are in conflict. Employing a largely realist approach, we tested how various countries might seek to bend or even break the ATS to realise their strategic objectives. Although other modes might be present, we consider that *hard-headed realism* is both plausible and likely to stress the ATS as countries position themselves relative to one another in the lead-up to the potential ATS renegotiations. Clearly, if all parties take a more altruistic approach, in line with the original intent of the ATS, then it is unlikely that significant change will occur. But we contend that the realist approach is more likely given both the

significant political, technological, environmental, economic and social changes that have occurred over recent decades and the way in which strategic competition is being played out in similar arenas (e.g. the Arctic, outer space, South China Sea, Ukraine). Therefore, our analysis is a depiction of rub-points and scenarios for the ATS that interested parties need to consider when planning for their future engagement with the Antarctic region.

We present the following findings:

- Without an agreed-upon and effective enforcement mechanism, the ATS will be rendered redundant if, and when, some interested parties seek to challenge it to further their own interests.
- The territorial distribution of the Antarctic region might be unsustainable because it is reflective of the power dynamics of the post-World War II era. The premise underpinning the ATS will be called into question if other claimants actively challenge the territorial distribution.
- States are very likely to exploit resources, both on land and in the seas around the Antarctic, to undermine the ATS.
- The Antarctic has several characteristics that are not typically present for land-based conflict, which makes it more difficult to understand how and why conflict could occur: It is resource-rich but supply-poor, it is extremely remote, its natural environment is severe and inhospitable, and it has no permanent population.
- In seeking to position themselves advantageously ahead of the potential ATS renegotiations, interested parties might wish to establish claims that they do not intend to exploit immediately. Rather, their actions might reflect a hedging strategy to ensure future access for themselves when such exploitation activities become economically viable.

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# Introduction

Antarctica has long been conceived of as a continent of peace and calmness, bereft of all but limited human activity. In reality, however, it is a resource-rich continent historically contested by multiple powers seeking to gain both symbolic and material gain. Although the territorial claims of seven states—Argentina, Australia, Chile, France, New Zealand, Norway, and the United Kingdom (UK)—were frozen as part of the 1959 Antarctic Treaty (AT),<sup>1</sup> tensions remain over what it means to possess territory in Antarctica, what activities are permitted, and what Antarctic sovereignty actually means. These issues are exacerbated by the AT's broad language, which is intended to provide countries with the flexibility to pursue peaceful exploration and scientific research.

The Antarctic Treaty System (ATS)—which consists of the AT itself, the 1972 Convention for the Preservation of Antarctic Seals (CCAS),<sup>2</sup> the 1980 Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR),<sup>3</sup> the 1988 Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA),<sup>4</sup> and the 1991 Protocol on Environmental Protection to the Antarctic Treaty (the Madrid Protocol)<sup>5</sup>—has proven to be remarkably resilient over the past 60 years. However, as international dynamics have shifted, the ATS has become increasingly exploitable. The ATS does not resolve outstanding territorial claims, nor does it force countries to inspect the activities of others to ensure compliance; it merely suggests that they do so. Therefore, it is difficult to determine the true activities of civilian and military personnel stationed in Antarctica. Moreover, although the ATS nominally prevents development and mineral extraction, Russia and China, in particular, have identified the Antarctic as a source of rare earth elements and might pursue these activities more readily after 2048, when the Environmental (Madrid) Protocol is potentially up for review.<sup>6</sup>

Furthermore, it has so far been difficult to examine how international events affect Antarctic affairs. Although it is now evident that global politics *do* affect polar politics—for example, in February 2022, seven of the eight Arctic Council members suspended meetings and cooperation with the eighth member, Russia, after it invaded Ukraine<sup>7</sup>—there is still relatively little understanding of how the Antarctic features in the geostrategic imagination of contemporary states and in their national statecraft.

In our research, we seek to gain a deeper understanding of geostrategic manoeuvring and competition in the Antarctic in the coming decades and to consider possible implications for the ATS, a governance regime that seems increasingly ill-fitted to modern strategic dynamics. Although some aspects of the ATS—specifically, the Environmental (Madrid) Protocol— are potentially up for review in 2048, the

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<sup>1</sup> Secretariat of the Antarctic Treaty, 'The Antarctic Treaty', webpage, undated-a.

<sup>2</sup> Convention for the Conservation of Antarctic Seals, signed at London, 1 June 1972.

<sup>3</sup> Convention on the Conservation of Antarctic Marine Living Resources, signed at Canberra, 20 May 1980.

<sup>4</sup> Secretariat of the Antarctic Treaty, 'Convention on the Regulation of Antarctic Mineral Resource Activities', 1988.

<sup>5</sup> Protocol on Environmental Protection to the Antarctic Treaty, signed at Madrid, 4 October 1991.

<sup>6</sup> There is a misconception that the Madrid Protocol expires in 2048. Although this is not the case, there is a built-in mechanism for revisiting the tenets of the agreements after a defined period. Although any change would require the unanimous agreement of the Antarctic Treaty Consultative Parties (ATCPs) to change the protocol to remove the mining ban, after 2048, any Consultative Party can request that a conference be held to review the operation of the protocol.

<sup>7</sup> The seven have since restarted some cooperation on projects that do not involve Russia.

future of the continent is likely to be decided in the intervening years by strategic-minded parties seeking to exploit susceptibilities in the lean mechanisms of the ATS.

Indeed, given some of the public statements by various national entities (which we will discuss later in the report), it is anticipated that, in the coming decades, there will be efforts by some actors to either recalibrate (*bend*) the ATS to their benefit or potentially render unworkable (*break*) the ATS and seek a new international instrument to govern Antarctic affairs.

To explore these dynamics, we focus on three questions:

- How might growing strategic competition among actors with interests in the Antarctic manifest in the lead-up to the potential review of elements of the ATS?
- What might this mean for the broader treaty system, particularly as it pertains to sovereignty and ungoverned spaces?
- How might these trends in the Antarctic affect great-power competition globally?

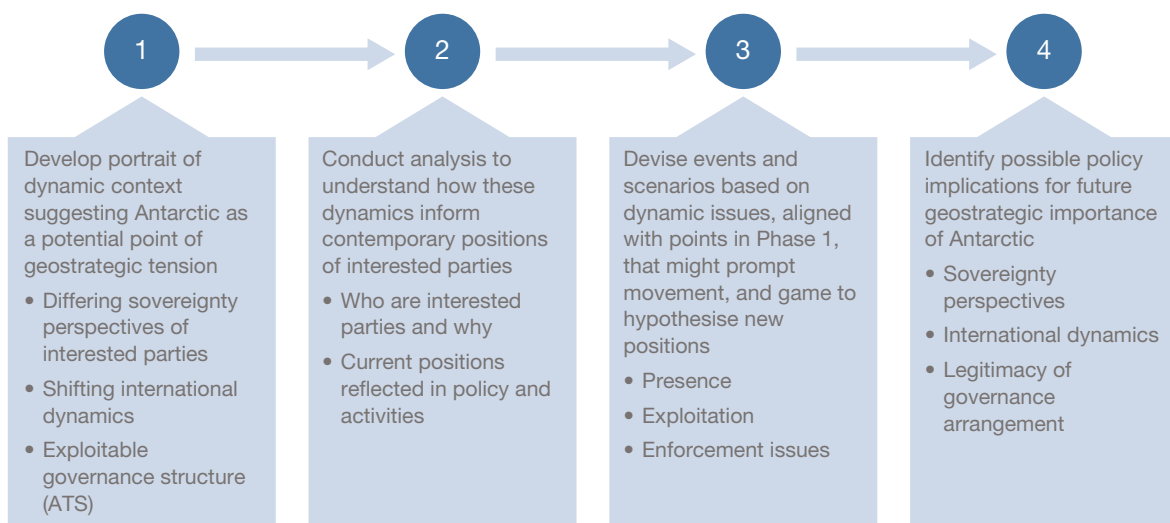
To begin to answer these questions, we adopted a logic map (Figure 1.1) for our analytical approach and used this map to develop a series of methods and activities.

In Step 1, we sought to develop a portrait of the Antarctic as a potential point of geostrategic tension by capturing differing sovereignty perspectives of interested parties, shifts in international dynamics, and avenues for exploiting the ATS governance structure. We conducted a review of the history of the ATS, highlighted existing challenges with governance, and set the stage for possible friction points between national entities.

In Step 2, we sought to understand how these dynamics inform contemporary positions of interested national entities. We developed a series of national positions by incorporating elements of national perspective, such as what presence means in the Antarctic; the content and perceived flexibility of Antarctic objectives for a given state; and potential points of friction, such as differences in interpretation of the ATS and how states might exploit their Antarctic presence for national benefit.

In Step 3, we used our analysis of the national positions of the various existing and potential protagonists in the Antarctic to determine some of the key issues facing the region. These issues formed the basis for a scenario-based, multiphase tabletop exercise (TTX) wherein we sought to challenge, test, and stretch thinking around these positions to both explore and expand the potential geostrategic friction points.

**FIGURE 1.1**  
**Logic Map for Analytical Approach**



Finally, in Step 4, we analysed the materials developed as part of the study in concert—the ATS review, the national positions and the TTX results—and workshopped our findings with participants in the TTX to identify some implications for the future geopolitical and geostrategic importance of the Antarctic.

Nonetheless, the report has limitations. We were constrained in the number of countries we could examine. Interested parties in the Antarctic region include not only the seven territorial claimants but also the other original signatories of the ATS and the countries who have since acceded. At the time of writing, there are 56 parties to the ATS, 29 of which are Consultative parties, and 27 Non-Consultative parties who possess observation rights but do not participate in decisionmaking. To manage this constraint, we identified 14 countries that have published Antarctic objectives, have shown clear interest in the Antarctic with scientific research expeditions or have territorial claims (or some other state-sponsored activity).

In the TTX, we only included participants from the RAND Corporation, albeit from Australia, the United States and the UK. In many cases, the TTX participants were responsible for the development of the national profile and position of the country they were representing and came to the activity with expertise on country-specific polar issues and language skills that they were able to apply in the gameplay.<sup>8</sup>

Finally, this is a strategic-level analysis, meant to complement studies concerned with key operational issues, such as the absence of an effective inspection regime, the creation and enforcement of marine protected areas (MPAs), increased evidence of contestation of science-based data collection and evidence, constant disruptions to Antarctic Treaty Consultative Meetings (ATCMs) by China and Russia regarding governance matters, the effect of climate change on access and operations to the continent, and the place and role of dual-use technology (notably, the issue of military intent). So, although these issues are certainly present in our analysis, our focus is on the geostrategic and geopolitical implications and their influence on the functionality of the Antarctic governance regime rather than on the minutiae of disputes over these issues in ATCMs or specific state conduct. Therefore, we hope this report will deepen discussion, not just on the Antarctic but also on ungoverned and alternatively governed spaces that are emerging as potentially contested spaces, including the polar regions, outer space and the electromagnetic spectrum.

## Organisation of This Report

The remainder of this report unfolds in four additional chapters. In Chapter 2, we explore the parameters of the ATS and analyse the origins, roles and potential pitfalls of the set of treaties that govern state behaviour in the Antarctic region. Chapter 3 consists of short position summaries of 14 signatory and nonsignatory states with varying levels of interest and resourcing in the Antarctic. The summaries were drawn from contemporary literature, press releases, historical documentation and foreign policy statements. In Chapter 4, we outline in detail the approach we took to the TTX as a means for developing high-level insights, actions and friction points that could provide a basis for more-detailed studies. We also capture some of the potential points of contention (and collaboration) that emerged from the exercise and the specific country responses that underpinned these points. In Chapter 5, we consider what our analysis and TTX might suggest for the longevity of the ATS and for growing strategic competition in Antarctica and globally. We also outline some key findings that interested parties might need to consider when planning for their future engagement with Antarctica and the region.

<sup>8</sup> Expertise on country-specific polar issues was not available for South Africa, and, therefore, South Africa was not included in the TTX, but we retained the national profile because of its important role and the extra depth and detail it was able to provide for understanding the landscape.



## The Antarctic Treaty System: An Exploitable Governance Regime

This chapter examines the origins, roles and potential pitfalls of the ATS, the set of treaties that govern state behaviour in the Antarctic. The AT constituted a revolutionary arms control and governance agreement borne out of Cold War competition and imperial legacies. Since coming into force in 1961, the AT has been supplemented with several additional treaties, creating the ATS. These treaties are the 1972 CCAS, the 1980 CCAMLR, the 1988 CRAMRA and the 1991 Protocol on Environmental Protection to the Antarctic Treaty (the Madrid Protocol).

The ATS is managed by 56 contracting parties, 29 of which are voting Consultative Parties. These Consultative Parties include the seven states that claim Antarctic territory—claims that few other countries recognise and whose status are frozen by the AT. The ATS's governing secretariat has been based in Buenos Aires, Argentina, since 2003. The consultative ATS meetings are supplemented by Special Antarctic Treaty Consultative Meetings (SATCMs), which include discussions of Antarctica's most important issues but are held less frequently. In addition, the independent Scientific Committee on Antarctic Research (SCAR) advises the ATS Secretariat on an as-needed basis.

The ATS largely sits outside the United Nations (UN). This fact historically has prompted some states that felt their voices were not being heard to press for the ATS's subordination to UN bodies. As more countries have become contracting parties, however, this demand has largely receded. Questions nonetheless remain over the application of United Nations Convention on the Law of the Sea (UNCLOS) articles in relation to the seven claimant states, some of which have declared 12-nautical mile territorial limits and 200-nautical mile exclusive economic zones (EEZs) in the waters off their respective claimed territories.

As importantly, questions exist over the ability of Consultative Parties to effectively monitor states' Antarctic activities and, if necessary, punish states for these activities. As provided for in the AT, Consultative Parties may undertake inspections, albeit preannounced, of other Consultative Parties' stations. The ATS Secretariat has even provided official questionnaires covering a variety of ATS-related issues. However, the ATS does not provide for any official enforcement mechanism if a Consultative Party or the ATS Secretariat determines that a regulation has been broken. This gap exposes a fundamental weakness in the ATS through which states can increasingly take advantage. Several dispute resolution paths exist, including through the International Court of Justice (ICJ), internal ATS appeal processes, bilateral or multilateral meetings during the ATCMs, and informal international mediation. These paths, however, have yet to be tested. So far, ATS enforcement has rested on good faith and adherence to the 1969 Vienna Convention on the Law of Treaties, which requires states to follow the treaties that they have ratified. Questions, too, remain over jurisdiction. While some Consultative Parties conceive of jurisdiction as resting on the principle of nationality, others conceive of it as based on the principle of territory, even if Antarctic territorial claims remain largely unrecognised and their disputed legality frozen in time.

## Governance and Decisionmaking

### Historical Origins

Antarctica has been a source of curiosity, exploration and glory since its first sighting by Russian naval officers Fabian Gottlieb von Bellingshausen and Mikhail Lazarev in 1820. Before 1820, Antarctica was described by cartographers as *Terra Australis*, a vast unknown southern continent. In 1772, British explorer James Cook crossed the Antarctic circle (60° south latitude) but did not reach the continent itself.<sup>1</sup> His reports nonetheless ‘refuted the notion’ of a *Terra Australis*.<sup>2</sup> Europeans consequently conceived of the region as a vast southern icy ocean. This concept, however, was erased with the discovery of the South Shetland Islands in 1819 and Bellingshausen and Lazarev’s 1820 voyage.<sup>3</sup> Three years later, British captain James Weddell sailed farther south into what is now known as the Weddell Sea.<sup>4</sup> In 1839–1841, Weddell was followed by British naval officer James Clark Ross, who explored what are now the Ross Sea and Ross Ice Shelf.<sup>5</sup> The same year, the French explorer Dumont d’Urville explored the coast of what is now Adélie Land.<sup>6</sup> At about the same time, U.S. admiral Charles Wilkes sailed 1,500 miles along the coastline and was the first person to refer to the region as ‘an Antarctic continent’.<sup>7</sup> Exploration of the Antarctic continent remained relatively quiet until 1898, when the Belgian explorer Adrien de Gerlache became the first explorer ‘to spend a winter in the Antarctic after becoming trapped in ice for a year’.<sup>8</sup> The lack of exploration, however, did not stop Chilean cartographer Alejandro Bertrand from publishing a map in 1884 proclaiming ‘the South American sector of Antarctica’.<sup>9</sup>

The years 1898–1899 marked the beginning of what would later become known as the “Heroic Age” of Antarctic exploration.<sup>10</sup> In 1899, ‘Norwegian Carsten Borchgrevink [led] the first British expedition’ in this period and became the first to ‘[spend] a winter on the Antarctic mainland, and the first to use dogs and sledges on the continent’.<sup>11</sup> In 1901, Britons Ernest Shackleton and Robert Falcon Scott followed Borchgrevink on the Antarctic mainland, reaching 410 miles to the South Pole before being forced back.<sup>12</sup> In 1911, Scott and Norwegian explorer Roald Amundsen raced to the South Pole: Amundsen won by several weeks; Scott perished on the return trip.<sup>13</sup>

States began to make formal claims to Antarctic territory in this period and continued to do so up to World War II. Argentina established the Orcadas station in the South Orkney Islands in 1904 and

<sup>1</sup> Jessica O’Reilly, *The Technocratic Arctic: An Ethnography of Scientific Expertise and Environmental Governance*, Cornell University Press, 2017, p. 18.

<sup>2</sup> Jorge Guzmán-Gutiérrez, ‘Imagining and Mapping Antarctica and the Southern Ocean’, *Imago Mundi*, Vol. 62, No. 2, 2010, p. 264.

<sup>3</sup> Guzmán-Gutiérrez, 2010, p. 264.

<sup>4</sup> Royal Museums Greenwich, ‘Exploring Antarctica—A Timeline’, webpage, undated.

<sup>5</sup> Royal Museums Greenwich, undated.

<sup>6</sup> Douglas Mawson, ‘Australasian Antarctic Expedition, 1911–1914’, *Geographical Journal*, Vol. 44, No. 3, September 1914, p. 258.

<sup>7</sup> William H. Hobbs, ‘Wilkes Land Rediscovered’, *Geographical Review*, Vol. 22, No. 4, October 1932, p. 632.

<sup>8</sup> Royal Museums Greenwich, undated.

<sup>9</sup> Guzmán-Gutiérrez, 2010, p. 266, fn. 13.

<sup>10</sup> Royal Museums Greenwich, undated.

<sup>11</sup> Royal Museums Greenwich, undated.

<sup>12</sup> Royal Museums Greenwich, undated.

<sup>13</sup> Royal Museums Greenwich, undated; Robert Falcon Scott, Douglas W. Freshfield, Earl Curzon, and Clements R. Markham, ‘The Antarctic Disaster’, *Geographical Journal*, Vol. 41, No. 3, March 1913.

declared the surrounding region as under its control.<sup>14</sup> The British laid claim to vast parts of Antarctica in 1908. Portions of their original claim were apportioned to New Zealand and Australia in 1923 and 1933,<sup>15</sup> respectively. Norway made a formal claim in 1939, partially to protect the area where its explorers had traversed to prevent an arriving Nazi German expedition from laying its own claim and partially to protect its fishing industry.<sup>16</sup>

South American states made their own formal claims as well, in part because of their geographical proximity to Antarctica. Chile announced its formal claim over the Antarctic Peninsula and its environs in 1940 (partially overlapping the British claim)<sup>17</sup> and was soon followed by Argentina declaring a claim over much of the same region in 1942.<sup>18</sup> In 1948, the two South American countries signed an agreement not to contest each other's claims. In 1955, Chile and Argentina formally rebuffed efforts by the UK to settle the three countries' overlapping claims in the ICJ.<sup>19</sup> This dispute, alongside growing Cold War competition, constituted one of the primary motivations for the International Geophysical Year (IGY) and the AT.

## The 1959 Antarctic Treaty

The mechanisms and instruments included in the ATS regulate international relations and dynamics in the Antarctic region. The linchpin of this system was formed by the 1959 AT. The AT applies to the area south of 60° south latitude, including ice shelves, but does not affect the rights of states under international law with respect to the high seas.

The AT was a revolutionary document, becoming the first arms control agreement of the Cold War. The IGY of 1957–1958, which preceded the conclusion of the AT, aimed to end Cold War divisions in the scientific community by promoting global scientific exchange among the North Atlantic Treaty Organisation (NATO), the Warsaw Pact and non-aligned states and prompted an intense period of scientific research in the Antarctic. The IGY's momentum was written into posterity in the terms of the 1959 AT (which entered into force in 1961). During treaty deliberations, the UK representative acknowledged the responsibility and altruism essential to the integrity of the document, arguing that it was 'to be almost entirely a self-denying ordinance on the part of the signatories, who will derive from it virtually no privileges but only obligations'.<sup>20</sup>

At its inception, the AT turned on twin pivots: non-militarisation of the Antarctic and the fundamental principle that it may be used for only, as is stated explicitly in the text of the agreement, 'peaceful purposes'.<sup>21</sup> This security dimension was palpably reproduced in several of the articles. Article I stipu-

<sup>14</sup> Edward S. Milenky and Steven I. Schwab, 'Latin America and Antarctica', *Current History*, Vol. 82, No. 481, February 1983, p. 52.

<sup>15</sup> Katie Pickles, 'Southern Outreach: New Zealand Claims Antarctic from the "Heroic Era" to the Twenty-First Century', in Katie Pickles and Catharine Coleborne, eds., *New Zealand's Empire*, Manchester University Press, 2016, p. 230; L. F. E. Goldie, 'International Relations in Antarctica', *Australian Quarterly*, Vol. 30, No. 1, March 1958, p. 17.

<sup>16</sup> Kurt M. Shusterich, 'The Antarctic Treaty System: History, Substance, and Speculation', *International Journal*, Vol. 39, No. 4, Autumn 1984, p. 802.

<sup>17</sup> John Hanessian, Jr., Paul W. Frazier, and Alana F. Neidle, 'Antarctica: Current National Interests and Legal Realities', *Proceedings of the American Society of International Law at Its Annual Meeting (1921–1969)*, Vol. 52, April 1958, p. 153, fn. 24.

<sup>18</sup> Milenky and Schwab, 1983, p. 53; Klaus Dodds and Alan D. Hemmings, 'Britain and the British Antarctic Territory in the Wider Geopolitics of the Antarctic and the Southern Ocean', *International Affairs*, Vol. 89, No. 6, November 2013, p. 1442.

<sup>19</sup> International Court of Justice, 'Antarctica (United Kingdom v. Chile)', webpage, undated.

<sup>20</sup> Robert D. Hayton, 'The Antarctic Settlement of 1959', *American Journal of International Law*, Vol. 54, No. 2, April 1960, p. 356.

<sup>21</sup> Christopher C. Joyner, 'Nonmilitarization of the Antarctic: The Interplay of Law and Geopolitics', *Naval War College Review*, Vol. 42, No. 4, Autumn 1989, p. 88.



lated that 'Antarctica shall be used for peaceful purposes only. There shall be prohibited, inter alia, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military manoeuvres, as well as the testing of any type of weapons'.<sup>22</sup> The effect of this article is the prohibition of any measures of a military nature, nuclear explosions, or disposal of radioactive waste. However, it is worth noting that the article specifically allows using military personnel to peacefully support scientists or 'for any other peaceful purpose'.<sup>23</sup>

The principles of non-militarisation and peaceful purposes were reinforced in the prioritisation of scientific research and cooperation. This was in keeping with the objective of the IGY to end Cold War divisions within the scientific community by promoting global scientific exchange. Article II states that '[f]reedom of scientific investigation in Antarctica and cooperation toward that end, as applied during the International Geophysical Year, shall continue, subject to the provisions of the present Treaty'.<sup>24</sup>

Article IV of the treaty elegantly removed the potential for significant international discord over these issues with the provision that

No acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting[,] or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica. No new claim, or enlargement of an existing claim to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force.<sup>25</sup>

This provision allows 'the Consultative Parties to sidestep potential conflicts over territorial claims and to manage activities in Antarctica in the wider interests of the international community'.<sup>26</sup>

In many ways, this suspension of sovereign claims for the duration of the Treaty underpins and sustains the whole Antarctic governance system:

It freezes the disputes over sovereignty issues by stating that the provisions of the treaty cannot be interpreted as prejudicing the position of any party to it as regards claims of territorial sovereignty, and by declaring that any act taking place during the entry into force of the treaty has no effect on the sovereignty claims. On the basis of this understanding, the Antarctic Treaty could then build a system of governance requiring the active participation of the States parties to it.<sup>27</sup>

Given the magnitude of these central objectives, the institutional structure of the AT was surprisingly lean. Former University of Sydney Law School professor Gillian Triggs observes,

The language of the treaty itself and of the related conventions on seals, marine living resources, and minerals and the Protocol on Environmental Protection is deliberately ambiguous and vague. The regime has weak inspection, enforcement, and governance mechanisms and has been slow to respond to conflict in the Southern Ocean over whaling and unregulated fishing.<sup>28</sup>

<sup>22</sup> The Antarctic Treaty, signed at Washington, D.C., 1959, Article I.

<sup>23</sup> The Antarctic Treaty, 1959, Article I.

<sup>24</sup> The Antarctic Treaty, 1959, Article II.

<sup>25</sup> The Antarctic Treaty, 1959, Article IV.

<sup>26</sup> Gillian Triggs, 'The Antarctic Treaty System: A Model of Legal Creativity and Cooperation', in Paul Arthur Berkman, Michael A. Lang, David W. H. Walton, and Oran R. Young, eds., *Science Diplomacy: Antarctica, Science, and the Governance of International Spaces*, Smithsonian Institution Scholarly Press, 2011, p. 39.

<sup>27</sup> Philippe Gautier, 'The Exercise of Jurisdiction over Activities in Antarctica: A New Challenge for the Antarctic System', in Lillian del Castillo, ed., *Law of the Sea: From Grotius to the International Tribunal for the Law of the Sea*, Brill Nijhoff, 2015, p. 193.

<sup>28</sup> Triggs, 2011, p. 39.

The slender design is perhaps most apparent in the rejection of a permanent secretariat for the AT, something that would be typical in the context of modern regime creation. Nor was there any kind of centralised platform instituted for the circulation of information, proposals and the like.<sup>29</sup> These functions were not formally addressed until the creation of a permanent secretariat in Buenos Aires in 2003.

This minimalist structure was successful, in large part, for the conceptual space it provided for sovereign neutrality to be asserted as its underpinning imperative. In suspending sovereign claims (Article IV), the AT allows states ‘with diametrically inconsistent juridical positions on Antarctic sovereignty to engage cooperatively and fruitfully in one of the most effective regimes for global governance to be established within the international community’.<sup>30</sup> However, although sovereign neutrality through Article IV might allow for collective decisionmaking and cooperation between diverse polities, state sovereign activity is still built into the AT. In a structural sense, Article VIII still ‘requires contracting states to exercise jurisdiction over their nationals on the continent’,<sup>31</sup> and, in a more abstract sense, claimant states continue to engage in performances of national sovereignty, seeking to ‘consolidate their sovereign rights while at the same time becoming ever more anxious about the behaviour of others’.<sup>32</sup>

## The Antarctic Treaty System

Since coming into force in 1961, the AT has been supplemented by several additional agreements (adopted at the consultative meetings), becoming, relative to its original design, a sophisticated and comprehensive governance system sitting largely outside the instruments of the UN. These additional agreements, combined with the AT, collectively form the ATS.

The 1972 CCAS ‘provided a means for regulating commercial sealing should it ever resume, fully protecting three Antarctic seal species and establishing catch limit mechanisms for the other three’.<sup>33</sup> It enhanced ATS governance, providing for a commission and a scientific advisory committee.

The 1980 CCAMLR established one of the world’s first conservation agreements and endorsed a holistic, ecosystem-based management approach,<sup>34</sup> which sought to conserve all Antarctic living marine resources rather than just individual species. A scientific committee and secretariat was provided for under CCAMLR, in addition to the Commission for the Conservation of Antarctic Marine Living Resources established under Article VII.

Although CCAS and CCAMLR are independent agreements, they both contain provisions committing their signatories to essential parts of the AT, such as Article IV, which deals with the legal status of territorial claims.

Arguably the most sophisticated institutional provision of all the Antarctic instruments was provided for in the 1988 CRAMRA. The comprehensive minerals regime envisaged a commission, two committees, a secretariat and an arbitral tribunal necessary for the regulation of resource exploitation. The CRAMRA has not been ratified by any state, but it is part of the body of documents produced by the AT parties.<sup>35</sup>

<sup>29</sup> Gillian Triggs, ‘The Antarctic Treaty Regime: A Workable Compromise or a “Purgatory of Ambiguity”?’ *Case Western Reserve Journal of International Law*, Vol. 17, No. 2, 1985, p. 195.

<sup>30</sup> Triggs, 2011, p. 43.

<sup>31</sup> Triggs, 2011, p. 43.

<sup>32</sup> Klaus J. Dodds, ‘Sovereignty Watch: Claimant States, Resources, and Territory in Contemporary Antarctica’, *Polar Record*, Vol. 47, No. 3, July 2011, pp. 231–232.

<sup>33</sup> Australian Antarctic Program, ‘History of the Antarctic Treaty’, webpage, 11 April 2017.

<sup>34</sup> Natasha B. Gardiner, ‘Marine Protected Areas in the Southern Ocean: Is the Antarctic Treaty System Ready to Co-exist with a New United Nations Instrument for Areas Beyond National Jurisdiction?’ *Marine Policy*, Vol. 122, December 2020, p. 2.

<sup>35</sup> Secretariat of the Antarctic Treaty, ‘Convention on the Regulation of Antarctic Mineral Resource Activities’, 1988.

The 1991 Madrid Protocol effectively placed an indefinite ban on mining or mineral resource activity in the Antarctic, designating the region a natural reserve devoted to peace and science. The Madrid Protocol ‘provides a multinational, codified set of environmental standards’, which apply uniquely to the Antarctic, and a system of protected areas. Significantly, it ‘establishes environmental principles for the conduct of all activities, which must be assessed for their potential environmental impact before they are undertaken and provides guidelines for conservation of Antarctic flora and fauna, managing and disposing of waste, and preventing marine pollution’.<sup>36</sup> The Madrid Protocol established a Committee on Environmental Protection (CEP) to provide advice on and formulate recommendations in relation to the implementation of the protocol.<sup>37</sup> Adoption of the Madrid Protocol was a defining event in the recent history of Antarctica. Environmental protection became, quite explicitly, the overarching priority for governance of the region and the driving impetus for the ATS more broadly.

However, the Madrid Protocol’s prominence does not negate the importance of science and research, physical presence, commercial interests and security (among other priorities). They are all, as Luis Ferrada argues, ‘[p]ieces of a great Antarctic geopolitical chessboard’ that seems to turn on control, exploitation and protection of the continent’s resources.<sup>38</sup>

## The Antarctic Treaty Consultative Meetings

The AT, under Article IX, provides for a meeting of representatives of the contracting parties. The meeting of this plenary body takes place annually and has become the international forum for the administration and management of the region. The ATCM facilitates information exchange, consultation, and the formulation of measures, decisions, and resolutions on the uses of, and jurisdiction over, Antarctica; the encouragement of scientific research, cooperation, and inspection; and the preservation of Antarctic living resources. The ATCM arguably encompasses the peak body of the ATS, and this body has overseen supplemental treaty elements and their interface with the broader system since 1985.<sup>39</sup> Currently, administrative functions are managed by the host state of the ATCM.<sup>40</sup>

Importantly, only 29 of the 56 contracting parties to the ATS have the right to participate in decision-making at these meetings, though the other 27 may attend. These states have become known as the *Consultative Parties*, distinct from those acceding states that are not able to demonstrate the appropriate level of research activity. The vital point of difference is that only the Consultative Parties are entitled to vote at meetings. In contrast, the Non-Consultative Parties are invited to participate only in the meetings’ discussions. Consultative Party meetings are held every year for two weeks for representatives to discuss matters of common interest and make recommendations to their governments. However, any formal measures decided at these meetings become binding only when all Consultative Parties have approved them by consensus. According to Triggs, this requirement reflects ‘the differing juridical positions on sovereignty’, but it also ‘has a limiting effect on effective governance’.<sup>41</sup>

The regulations and guidelines administered by the Consultative Parties cover such subjects as

- scientific cooperation
- protection of the Antarctic environment

<sup>36</sup> Australian Antarctic Program, ‘History of the Antarctic Treaty’, webpage, 11 April 2017.

<sup>37</sup> Australian Antarctic Program, ‘Protocol on Environmental Protection to the Antarctic Treaty (the Madrid Protocol)’, webpage, 17 May 2019.

<sup>38</sup> Luis Valentín Ferrada, ‘Five Factors That Will Decide the Future of Antarctica’, *Polar Journal*, Vol. 8, No. 1, July 2018, p. 102.

<sup>39</sup> Karen Scott, ‘Institutional Developments Within the Antarctic Treaty System’, *International and Comparative Law Quarterly*, Vol. 52, No. 2, April 2003, p. 478.

<sup>40</sup> However, other states have, in the past, provided ad hoc administrative assistance.

<sup>41</sup> Triggs, 2011, p. 43.

- conservation of plants and animals
- preservation of historic sites
- designation and management of protected areas
- management of tourism
- information exchange
- collection of meteorological data
- hydrographic charting
- logistic cooperation
- communications and safety.<sup>42</sup>

The meetings tend to have wide participation. Although the meetings are largely conducted as inter-state dialogues, there has been some scope for observers or experts, including international organisations, trade organisations and nongovernmental organisations (NGOs), to attend. In addition, the European Union, which actively contributes to the Antarctic fisheries regime, is likely to have interests in the deliberations occurring at the ATCMs, and bodies such as the Union of South American Nations have demonstrated genuine interest in participating in the meetings.<sup>43</sup>

The consultative meetings are supplemented by SATCMs, which generally treat more-important topics but are less frequent. There is also SCAR, which is the direct descendant of the Special Committee on Antarctic Research, which was established by the International Council of Scientific Unions to coordinate Antarctic research during the IGY. Although SCAR is a nongovernmental body that does not enjoy a formal relationship with the AT, it has developed a close relationship with the Consultative Parties, providing objective, independent scientific advice.

## The Antarctic Treaty System and the United Nations

The ATS sits quite deliberately outside the UN system; this fact is championed as one of the key reasons for the success of the ATS in terms of regulation between the parties within the ATS. However, the relationship between the ATS and the UN has never been easy or as consensual among the international community as the narrative of success might suggest. Although it might seem sensible—given the international community’s established and growing interest in the Antarctic region—for the UN to be involved in the region’s governance, the question has been broached and rebuffed several times since the adoption of the AT. States, including the United States, New Zealand, India and Malaysia, have proposed UN-based regimes to govern the Antarctic, but each proposal has been met with a cool reception by other ATS members.<sup>44</sup> Most of the parties to the ATS, for various reasons, are of the opinion that UN involvement should remain minimal.

During the 1970s, debates about the specific role of the UN in Antarctica emerged, and Antigua and Barbuda and Malaysia put the ‘Question of Antarctica’ on the UN agenda in earnest,<sup>45</sup> bringing much of the non-aligned movement with them. The basis of their argument was that the existing regime was opaque and exclusive. This contention was countered by Consultative Parties’ claims about the AT’s historical success in maintaining peace and effecting sustainable governance over Antarctica. For example, Australia, representing the Consultative Parties, claimed that ‘[t]he [Antarctic] Treaty serves the interna-

<sup>42</sup> Secretariat of the Antarctic Treaty, ‘The Antarctic Treaty System’, brochure, January 2019.

<sup>43</sup> Ferrada, 2018, p. 90.

<sup>44</sup> Generally, on the UN-ATS relationship, see Peter J. Beck, ‘Antarctica and the United Nations’, in Klaus J. Dodds, Alan D. Hemmings, and Peder Roberts, eds., *Handbook on the Politics of Antarctica*, Edward Elgar Publishing, 2017.

<sup>45</sup> On Malaysia’s Antarctic policy, see Sumitra Jayaseelan, ‘Development of Malaysia’s Position in Antarctica: 1983 to 2017’, *Polar Journal*, Vol. 9, No. 1, January 2019; and R. Tepper and M. Haward, ‘The Development of Malaysia’s Position on Antarctica: 1982 to 2004’, *Polar Record*, Vol. 41, No. 2, April 2005. On the Question of Antarctica see Peter J. Beck, ‘The United Nations and Antarctica, 2005: The End of the “Question of Antarctica”?’ *Polar Record*, Vol. 42, No. 3, July 2006.

tional community well' and that any attempt to significantly amend or replace it was likely to have 'very serious consequences for international peace and co-operation'.<sup>46</sup>

In the ensuing decades, the issue appeared to recede into relative consensus. As the parties to the AT came to represent a majority of the world's population, the 'internationalisation versus exclusive club' division was significantly diminished, and the duties generated were 'owed *erga omnes* and bind *all* members of the international community'.<sup>47</sup> The ATS became largely recognised as the governing authority of Antarctica, strictly underpinned by the principle that it acts in the interest of 'all mankind'.<sup>48</sup>

In more-recent years, however, indicators have emerged that the consensus surrounding the ATS's primacy might not be as robust as it once was: We are seeing growth in factors that might result in a significant shift in the political-legal character of the ATS. The heterogeneity and asymmetry of the party states, although smoothed somewhat by the sovereign neutrality principle associated with Article IV of the AT, invite the need for an exceedingly complex structure of instruments to address the diverse suite of activities and interests emerging in Antarctica, such as liability questions, tourism or commercial bioprospecting.

Moreover, for ATS regulations and recommendations to be effectual, they must also be implemented in the parties' domestic laws. Ferrada notes, 'The diversity of legal systems involved, as well as the large number of provisions, leads to a complex approval process and a sometimes-ineffective practical application'.<sup>49</sup> Under these complex conditions, states might desire to 'increase their capabilities rather than reinforce the historical values of the ATS'.<sup>50</sup>

An increasingly dynamic field of actors and activities in Antarctica might also put additional pressures on the relationship between the ATS and the UN, exacerbate tensions between existing international instruments,<sup>51</sup> or expose new misalignments. There are already several Antarctic agreements, for instance, that have created ambiguity and overlap with the UNCLOS and the broad parameters, if largely abstract, entailed in the 'common heritage of mankind' principle.<sup>52</sup>

Moreover, there are other overarching instruments or mechanisms that are applicable to both polar regions. The UN-based International Maritime Organisation (IMO) has established a legally binding Polar Code to provide for safe ship operation and environmental protection in the polar regions: It provides for 'more stringent requirements as to vessel construction and equipment, training and discharges than those applicable elsewhere'.<sup>53</sup> The Marine Stewardship Council, which originated from 'a partnership between a major transnational food company and a global environmental organisation', is responsible for the certification of 'more than 10% of the world's capture fisheries, including several of those for

<sup>46</sup> Richard Woolcott, 'Letter Dated 5 October 1983 from the Permanent Representative of Australia to the United Nations Addressed to the Secretary-General', United Nations General Assembly, Thirty-Eighth Session, Question of Antarctica—letter from Australia, 10 October 1983.

<sup>47</sup> Scott, 2003, p. 476.

<sup>48</sup> Nils Vanstappen, 'Legitimacy in Antarctic Governance: The Stewardship Model', *Polar Record*, Vol. 55, No. 5, September 2019.

<sup>49</sup> This situation includes the relevant participation of private entities, such as NGOs and advocacy groups. See Ferrada, 2018, p. 90.

<sup>50</sup> Alan D. Hemmings, 'Antarctic Politics in a Transforming Global Geopolitics', in Klaus Dodds, Alan D. Hemmings, and Peder Roberts, eds., *Handbook on the Politics of Australia*, Edward Elgar Publishing, 2017, pp. 510–513.

<sup>51</sup> There is a lack of clarity around whether the baseline is 'the edge of the permanent ice or ice shelf, or the actual position of the ice/rock interface before or after compensation for isostatic change', and equally confounding is how this can be known. Moreover, it is unclear how extensive the dataset on morphology is. See David W. H. Walton, 'UNCLOS Versus the Antarctic Treaty', *Antarctic Science*, Vol. 20, No. 4, August 2008.

<sup>52</sup> There is a rich and voluminous body of literature on the *common heritage of mankind* concept. For general background, see, for example, Kemal Baslar, *The Concept of the Common Heritage of Mankind in International Law*, Martinus Nijhoff Publishers, 1998.

<sup>53</sup> Olav Schram Stokke, 'Introductory Essay: Polar Regions and Multi-Level Governance', *Polar Journal*, Vol. 11, No. 2, 23 February 2021, p. 250.



krill in the Southern Ocean and for cod and, on and off, mackerel and herring in the marine Arctic',<sup>54</sup> adding another layer of governance, albeit privately developed.

There is also an untested caveat regarding the central objectives of the AT, which are that Antarctica be used 'for peaceful purposes only' and remain non-militarised. Late Georgetown University professor Christopher Joyner highlights the need to understand how to address 'actions undertaken for individual or collective defence, arising from some situation in the Western Hemisphere, which could intrude into the area covered by the treaty—that is, south of 60° latitude'.<sup>55</sup> Article 51 of the UN Charter clearly allows for provision for self-defence, a guarantee specifically preserved in the Western Hemisphere through the security zone established in 1947 by the Inter-American Treaty of Reciprocal Assistance (the Rio Treaty). In fact, the United States, Chile and Argentina affixed declarations to this effect when they signed the AT in 1959.<sup>56</sup>

## Compliance and Enforcement

### Inspections

Article VII of the AT provides contracting parties with the ability to conduct inspections in all areas of Antarctica. The ATS Secretariat states, 'To promote the objectives of the Treaty and to ensure that the provisions of the Antarctic Treaty are observed, Parties are obliged to inform each other of their activities in Antarctica and facilitate inspections by other Parties of their facilities.'<sup>57</sup> Inspections are to be used as a means to assess, verify and address compliance issues; the AT stipulates that 'all areas of Antarctica, including all stations, installations, and equipment within those areas, and all ships and aircraft at points of discharging or embarking cargos or personnel in Antarctica are open at all times to inspection' by observers designated by the contracting parties.<sup>58</sup> Inspections are a key feature of the compliance regime in Antarctica.<sup>59</sup> Inspections were originally envisaged as a means by which to ensure non-militarisation of Antarctica, especially by the Soviet Union. But, in recent years, inspections have also been concerned with operational matters and adherence to environmental measures approved by the ATCPs.<sup>60</sup>

Recent discussions at ATCMs have brought the role of inspections in determining compliance to the fore. The ATCM has instituted inspection checklists to aid with inspections that are concerned with the different types of facilities and protected areas.<sup>61</sup> But these inspections are nonmandatory; as a result, inspections still rely on high-level cooperation, goodwill and transparency. Therefore, inspection proce-

<sup>54</sup> Stokke, 2021, p. 250.

<sup>55</sup> Joyner, 1989, p. 88.

<sup>56</sup> Joyner, 1989, p. 88.

<sup>57</sup> Secretariat of the Antarctic Treaty, 'Peaceful Use and Inspections', webpage, undated-e.

<sup>58</sup> The Antarctic Treaty, 1959, Article VII.

<sup>59</sup> Tim Stephens and Ben Boer, 'Enforcement and Compliance in the Australian Antarctic Territory: Legal and Policy Dilemmas', in Lorne K. Kriwoken, Julia Jabour, and Alan D. Hemmings, eds., *Looking South: Australia's Antarctic Agenda*, The Federation Press, 2007, p. 57.

<sup>60</sup> Secretariat of the Antarctic Treaty, 'Inspections Database', webpage, undated-c. Will the Antarctic again become principally about non-militarisation? In the future, there might be

increased problems with defining 'measures of a military nature'; and the greater use of bases in Antarctica for scientific research that has utility for military purposes, including possibly for the command and control of offensive weapon systems. The wider use of both coastguards for law enforcement in Antarctic waters and private security contractors for a range of military tasks also broadens the scope of what constitutes 'measures of a military nature' as proscribed by the Treaty. As a consequence of these developments, it will become increasingly difficult to ensure that Antarctica remains demilitarised, particularly if 'measures of a military nature' are defined broadly. (Sam Bateman, 'Strategic Competition and Emerging Security Risks: Will Antarctica Remain Demilitarised?' in Alan D. Hemmings, Donald R. Rothwell, and Karen M. Scott, eds., *Antarctic Security in the Twenty-First Century: Legal and Policy Perspectives*, Routledge, 2012)

<sup>61</sup> Secretariat of the Antarctic Treaty, undated-e.

dures are somewhat limited in what they can achieve.<sup>62</sup> Inspections may be conducted only by ATCPs, and there is no relevant provision within the ATS to speak to ‘what sanctions or procedures should be followed if an inspection should reveal violations’.<sup>63</sup>

Indeed, the increased importance of inspections, particularly since the 1980s, provides some insights into ATS intentions and practices, but it also suggests the inadequacy of what this means for ‘highlighting areas where actions are in breach of the Treaty or the Protocol’.<sup>64</sup> For example, in 1983, at France’s Dumont d’Urville Station on Point Géologie, along the coast in the French sector, construction began on an airfield. This project required leveling several small offshore islands and connecting them with archipelagic fill. Point Géologie is an area of heightened interest for scientific and environmental study because of its rich wildlife presence, but there was no environmental impact study conducted before construction occurred, and other options remained unconsidered.<sup>65</sup> These actions violated both the Agreed Measures for the Conservation of Fauna and Flora and French law by destroying bird habitats.<sup>66</sup>

Australia conducted inspections of the airfield and Dumont d’Urville Station, but no issues were detected. Environmental organisations were outraged at this determination, prompting the Antarctic and Southern Ocean Coalition to make the following highly critical statement on the matter:

[This violation] raises a question of credibility for the Antarctic Treaty System. If member governments fail to take any collective action—even to investigate allegations of a breach—the public can have little confidence in the commitments of governments pursuant to the Antarctic Treaty and related instruments.<sup>67</sup>

Although there is an understanding among treaty parties that ‘there are aspects of compliance that cannot readily be assessed by inspections’, there are mounting indicators that suggest that the legal structure might not be ‘fully prepared for an event where values of goodwill and cooperation stumble’.<sup>68</sup> As we witness an increased presence of state actors beyond the ATCPs and nonstate actors, such as environmental nongovernmental operators (e.g. Greenpeace and Sea Shepherd) and the fishing and touring industries, new kinds of activities will occur both onshore and offshore. Inspections simply might not be sufficient to effect compliance. Moreover, we have seen the effect that unforeseen challenges, such as the coronavirus disease 2019 (COVID-19) pandemic, have had on governance in Antarctica. For the first two years of the pandemic, ATCMs and CCAMLR meetings were delayed or cancelled, and inspections largely ceased, which has increased concerns and decreased quality of governance of the whole system.<sup>69</sup> Under these circumstances, states might start to use additional means, including new technologies, to enhance the inspection process and make the governance of the region more visible and comprehensive.<sup>70</sup>

<sup>62</sup> This could change with drones.

<sup>63</sup> Christopher C. Joyner, ‘Recommended Measures Under the Antarctic Treaty: Hardening Compliance with Soft International Law’, *Michigan Journal of International Law*, Vol. 19, No. 2, 1998, p. 417.

<sup>64</sup> Sune Tamm, ‘Peace vs. Compliance in Antarctica: Inspections and the Environment’, *Polar Journal*, Vol. 8, No. 2, 30 November 2018, p. 333.

<sup>65</sup> Joyner, 1998, pp. 416–417.

<sup>66</sup> Christopher C. Joyner, ‘Protection of the Antarctic Environment: Rethinking the Problems and Prospects’, *Cornell International Law Journal*, Vol. 19, No. 2, Summer 1986, pp. 268–270.

<sup>67</sup> Joyner, 1986, pp. 268–270.

<sup>68</sup> Tamm, 2018, p. 333.

<sup>69</sup> Kevin A. Hughes and Peter Convey, ‘Implications of the COVID-19 Pandemic for Antarctica’, *Antarctic Science*, Vol. 32, No. 6, December 2020.

<sup>70</sup> See David Leary, ‘Frozen Robots: Autonomous Underwater Vehicles and Unmanned Aerial Vehicles in the Antarctic: A New Tool or a New Challenge for Sustainable Ocean Governance?’ in Nengye Liu, Cassandra M. Brooks, and Tianbao Qin, eds., *Governing Marine Living Resources in the Polar Regions*, Edward Elgar Publishing, 2019.

## Dispute Resolution

According to the AT, if a dispute or disagreement arises concerning its interpretation or application, the contracting parties, under Article XI, are required to try to resolve it ‘by negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement or other peaceful means of their own choice’.<sup>71</sup> Means for resolution can include the following:

- The ICJ: ‘[W]ith the consent . . . of all parties to the dispute’, the issue may be referred to the ICJ. If there is no resolution at the ICJ, the parties are instructed to continue ‘to seek to resolve’ any disputes.<sup>72</sup>
- An internal ATS appeal process: Parties may work within an international regulatory authority that has an appeal process for resolving disputes—for example, the Comprehensive Environmental Evaluations within the ATS.<sup>73</sup>
- ATCMs: The ATCMs not only provide the parties with a formal mechanism for discussion but also provide states with an opportunity to conduct informal and private diplomatic negotiations, removing the need for any third-party involvement.
- International mediation: There might be scope, depending on the issue, for conflict resolution to be mediated by an impartial third party, such as a state actor, an individual or an NGO.

Whichever course is taken, reconciling the collective interests of signatory states is paramount—indeed, imperative—in gaining a successful resolution and ensuring compliance.

In recognition of some of the deficiencies in relation to compliance regulation, in 2003, the ATCM established the Secretariat of the AT in Buenos Aires, Argentina. This body constituted a more formal instrument to

assist the Antarctic Treaty Consultative Meeting (ATCM) and the Committee for Environmental Protection (CEP) in performing their functions, with the aim of strengthening the Antarctic Treaty system and ensuring that all activities in Antarctica are consistent with the purposes and principles of the Antarctic Treaty and its Protocol on Environmental Protection.<sup>74</sup>

Part of the role of the ATS Secretariat is to improve communication between signatories of the treaty and to handle the recompilation, storage and distribution of information, such as the ATCM and CEP records. The establishment of the ATS Secretariat was, in essence, an attempt to make Antarctic governance and decisionmaking more transparent.<sup>75</sup>

An increased emphasis on transparency and encouraged compliance does not necessarily equate to their existence in practice, however. The ‘Antarctic Treaty provides no specific criteria by which to measure States’ compliance, nor any monitoring programs to determine the recommendations’ effectiveness’.<sup>76</sup> On the ground, there have been, and continue to be, ongoing tensions ‘between maintaining peace between States, which govern through consensus, and ensuring compliance with the provisions of the Treaty and the Protocol’.<sup>77</sup>

<sup>71</sup> The Antarctic Treaty, 1959, Article XI.

<sup>72</sup> As quoted in John Hanessian, ‘The Antarctic Treaty 1959’, *International and Comparative Law Quarterly*, Vol. 9, No. 3, July 1960, p. 473.

<sup>73</sup> Secretariat of the Antarctic Treaty, ‘Environmental Impact Assessment’, webpage, undated-b.

<sup>74</sup> Secretariat of the Antarctic Treaty, ‘The Secretariat of the Antarctic Treaty’, webpage, undated-f.

<sup>75</sup> Thomas Lord, ‘The Antarctic Treaty System and the Peaceful Governance of Antarctica: The Role of the ATS in Promoting Peace at the Margins of the World’, *Polar Journal*, Vol. 10, No. 1, 2020, p. 13.

<sup>76</sup> Joyner, 1998, p. 416.

<sup>77</sup> Tamm, 2018, p. 333.



## Jurisdiction

In the AT, issues relating to jurisdiction are addressed under Article VIII. Under this article, observers and exchanged scientific personnel and their staffs 'shall be subject only to the jurisdiction of the contracting party of which they are nationals in respect of all acts or omissions occurring while they are in Antarctica, for the purpose of exercising their functions'. However, the article does not address the large number of scientific and support personnel present at the stations, and there is some ambiguity in terms of the operating laws and which courts have jurisdiction, especially in terms of criminal and civil offences committed by a national of one signatory state against a national of another signatory (or non-signatory) state.<sup>78</sup>

The notion of jurisdiction embedded in the AT and, therefore, within broader Antarctic governance is imprecise and unresolved. During the 1959 treaty negotiations, there were strong and significant disagreements on the AT's governing jurisdiction principle. The view that jurisdiction is based on the principle of nationality was held by the UK, Norway and all the states that did not recognise claims of sovereignty. Other states, including the then-Soviet Union and South Africa, expressly declared 'exclusive jurisdictional competence towards their own nationals'.<sup>79</sup> France, Chile and Argentina, however, were in support of the territorial principle. For example, France made it clear that 'it does not renounce any of the privileges of its sovereignty in Adélie Land especially those concerning the general power of jurisdiction, which it exercises over the said territory'.<sup>80</sup>

As a result, the partial solution evidenced in Article VIII was adopted. Had a choice been made in relation to the governing jurisdiction principle, it would also have entailed a pronouncement on the matter of territorial sovereignty.<sup>81</sup> Recognising that the provisions might not be sufficient, however, Article IX provides that contracting parties should regularly meet to consult 'on matters of common interest pertaining to Antarctica', including 'questions relating to the exercise of jurisdiction in Antarctica'.<sup>82</sup>

In 2012, the question of jurisdiction in Antarctica was again subject to serious consideration when French tourists caused damage to Wordie House, a historic British scientific base on Winter Island. The ATCM established an Intersessional Contact Group (ICG) that was tasked with encouraging a cooperative agenda in relation to the exercise of jurisdiction in the AT area. However, the final report of the ICG, issued in 2014, did not make any substantial recommendations on the issue.<sup>83</sup> As on previous occasions, the question of jurisdiction was deliberately not comprehensively addressed.

There are other articles within the treaty that speak to jurisdictional principles, although more obliquely. Article VII stipulates that each state provide other contracting parties with advance notice of

(a) all expeditions to and within Antarctica, on the part of its ships or nationals, and all expeditions to Antarctica organized in or proceeding from its territory; (b) all stations in Antarctica occupied by its nationals; and (c) any military personnel or equipment intended to be introduced by it into Antarctica subject to the conditions prescribed in paragraph 2 of Article I of the present Treaty.<sup>84</sup>

<sup>78</sup> Hanessian, 1960, p. 472.

<sup>79</sup> For example, the Soviet Union affirmed that '[t]he Soviet Union has considered and continues to consider that Soviet citizens in the Antarctic are subject to the jurisdiction of the Soviet Union alone' (Alexia de Vaucleroy, 'The Exercise of Jurisdiction in Antarctica: A Comparative Analysis from the Perspectives of Belgium, France and the United Kingdom', *Revue Belge de Droit International Law*, Vol 51, No. 2, 2018, p. 553). South Africa indicated that 'the government of South Africa is not able to foresee that it will be possible to renounce its jurisdiction over its nationals in anyplace in Antarctica' (de Vaucleroy, 2018, p. 553).

<sup>80</sup> de Vaucleroy, 2018, p. 553.

<sup>81</sup> de Vaucleroy, 2018, p. 553.

<sup>82</sup> The Antarctic Treaty, 1959, Article IX.

<sup>83</sup> de Vaucleroy, 2018, p. 555.

<sup>84</sup> The Antarctic Treaty, 1959, Article VII. This information-sharing is also an important aspect of the compliance regime.

In addition, Article IV, as we have established, is concerned with suspending sovereign claims and, therefore, reinforces the principles that parties are prohibited from taking measures that would indicate the exercise of sovereignty on a territorial basis.<sup>85</sup>

The inextricable relationship between ‘jurisdiction’ and ‘sovereignty’ creates an irresolvable tension between the exercise of legislative jurisdiction, which is important in preserving the credibility of a sovereign claim and upholding the ATS. If the law is not enforced within a claimant’s territory, the claim could be questioned. However, any kind of enforcement made by a claimant on a territorial basis will undermine its good relations and influence in the ATS (with both claimant and non-claimant states) or damage cooperative efforts to achieve positive continental outcomes, such as environmental protections. As a result, procedural means are the principal mode for the management of jurisdictional matters.<sup>86</sup>

## Enforcement

Although enforcing compliance with treaty provisions is manifestly difficult in the Antarctic, there are means by which measures and recommendations can become customary international law and become integrated into ATP agreements. An example might be the Antarctic Environmental Protection Protocol, the foundation of which was laid during informal deliberations, and which subsequently became a formal, substantive and specific set of provisions. According to Joyner, the requisite approvals for recommendations adopted at ATCMs tend to be secured within three years, and ATP governments largely act in accordance with the measures, often before they become formally approved and obligatory.<sup>87</sup>

Moreover, it is a reasonable expectation that governments will implement policies that are in keeping with the object and purpose of the AT. This precept is similarly articulated in Article 18 of the 1969 Vienna Convention on the Law of Treaties,<sup>88</sup> which outlines the rules by which an instrument is determined to be a treaty, how the treaty is made and brought into force, how it is amended and terminated, and how it operates.<sup>89</sup> Article 18 stipulates,

A State is obliged to refrain from acts which would defeat the object and purpose of a treaty when:  
(a) it has signed the treaty or has exchanged instruments constituting the treaty subject to ratification, acceptance or approval, until it shall have made its intention clear not to become a party to the treaty;  
or (b) it has expressed its consent to be bound by the treaty, pending the entry into force of the treaty and provided that such entry into force is not unduly delayed.<sup>90</sup>

However, the underpinning assumption is one of good behaviour. This approach to enforcement (which is largely through the promotion of compliance) will likely not be adequate if there is a serious violation of the ATS’s provisions. Indeed, the ATS might not be able to address even minor breaches. If normative facts and legal bases are eroded repeatedly and cannot be readily addressed, the impact on the validity of the ATS might be as detrimental as a serious violation. Moreover, enforcement requires both on-the-ground personnel and personnel who possess jurisdiction over the violations they have witnessed.<sup>91</sup> So, although there are mechanisms within the ATS for promoting compliance, it does not contain any kind of enforceable system of management but is made effective through the jurisdictional

<sup>85</sup> The Antarctic Treaty, 1959.

<sup>86</sup> de Vauleroy, 2018, p. 555.

<sup>87</sup> Joyner, 1998, p. 418.

<sup>88</sup> Joyner, 1998, p. 418.

<sup>89</sup> See Anthony Aust, ‘Vienna Convention on the Law of Treaties 1969’, in *Modern Treaty Law and Practice*, Cambridge University Press, 2007.

<sup>90</sup> Vienna Convention on the Law of Treaties, signed at Vienna, 23 May 1969, p. 8.

<sup>91</sup> de Vauleroy, 2018, p. 559.

competence of member States.<sup>92</sup> Tim Stephens and Ben Boer, argue that as a system of governance, the ATS 'provides an uncertain framework for the exercise by States of enforcement jurisdiction, whether this is to implement the ATS instruments themselves or unilateral measures adopted by States going beyond basic ATS stipulations'.<sup>93</sup>

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<sup>92</sup> Stephens and Boer, 2007, pp. 54–55.

<sup>93</sup> Stephens and Boer, 2007, p. 59.

## Country Profiles

In this chapter, we examine the national positions of AT signatory states and other key state actors with Antarctic interests. Although we were able to examine only 14 countries with vested interests in the Antarctic region, we rationalised their inclusion on the basis of access to a diversity of dynamics, perspectives and responses to the scenarios we devised. These countries are

- Australia
- Argentina
- Brazil
- Chile
- China
- France
- India
- Malaysia
- New Zealand
- Norway
- Russia
- South Africa
- United Kingdom
- United States.

We included only countries that have published clear Antarctic objectives and those that have shown clear interest in the Antarctic with scientific research expeditions or have territorial claims (or some other state-sponsored activity). We purposefully included signatory and nonsignatory states; countries with varying levels of interest, resourcing, global status and geographic locations; and countries with divergent, even conflicting, perspectives on claim recognition, where multiple equities and priorities were at play.

Figure 3.1 shows the claimed territories of some of those members, as well as the national research stations present in the Antarctic.

In the summaries that follow, we tried to capture the national positions of these countries, drawing on contemporary literature, press releases, historical documentation, and foreign policy statements and guided by the following questions:

- National perspective:
  - How does each state conceive of presence in the Antarctic?
  - How does each state balance security, economic, and environmental considerations?
  - What is the role of domestic politics?
- Antarctic objectives:
  - What are each state's longer-term objectives for the Antarctic?
  - How willing is each state to push its objectives?
  - How does each state's Antarctic position relate to broader global objectives?
  - How fixed is each state's position on other states' positions?



## Australia

Australia is one of the 12 original signatories to the AT and a signatory to the ATS, including the Environmental (Madrid) Protocol, the CCAS and the CCAMLR.<sup>1</sup> Australia claims sovereignty over 42 per cent of Antarctica, which it refers to as the *Australian Antarctic Territory* (AAT). The AAT is separated into two parts situated in East Antarctica and extends into offshore waters. The AAT represents the largest claim of any claimant state; however, Australia's claim is recognised only by other original claimant states, including the UK, New Zealand, France and Norway.<sup>2</sup>

The Australian Antarctic Program is maintained by the Australian Antarctic Division of the Department of Climate Change, Energy, the Environment and Water. Australia has had a constant presence in Antarctica since 1954,<sup>3</sup> and it maintains three permanent research stations situated on the coast of Antarctica: Casey, Davis, and Mawson. An additional permanent station is maintained on the sub-Antarctic Macquarie Island, and several field sites are maintained across the AAT for use during the Antarctic summer. The Australian Defence Force's annual Operation Southern Discovery provides equipment and personnel to support research and infrastructure projects in Antarctica, consistent with the ATS's prohibitions on nonpeaceful military activities.<sup>4</sup>

Australia recognises that its continued scientific and logistical presence and activities in the region contribute to the preservation of its sovereignty in the region, playing an 'integral role in preserving Australia's claim to 42 per cent of the continent beyond the life of the Antarctic Treaty'.<sup>5</sup>

As one of the original signatories and a key negotiator to the AT in 1959, Australia considers itself to have a 'unique responsibility to this pristine region' and a leadership role in upholding the ATS, 'stand[ing] by a robust Antarctic Treaty System and effective cooperation with other Antarctic states'.<sup>6</sup> Australia's geographical proximity to Antarctica also feeds into its interests in the region, which include governance and non-militarisation to ensure 'a region of peace and security at Australia's southern borders' and the effects of 'regional connections through climate and Southern Ocean ecosystems'.<sup>7</sup>

As outlined in Australia's Antarctic Strategy, Australia's national interests in the region are to

- Maintain Antarctica's freedom from strategic and/or political confrontation
- Preserve our sovereignty over the Australian Antarctic Territory, including our sovereign rights over adjacent offshore areas
- Support a strong and effective Antarctic Treaty System
- Conduct world-class scientific research consistent with national priorities
- Protect the Antarctic environment, having regard to its special qualities and effects on our region
- Be informed about and able to influence developments in a region geographically proximate to Australia
- Foster economic opportunities arising from Antarctica and the Southern Ocean, consistent with our ATS obligations including the ban on mining and oil drilling.<sup>8</sup>

<sup>1</sup> Secretariat of the Antarctic Treaty, 'Parties', webpage, undated-d.

<sup>2</sup> Parliament of the Commonwealth of Australia, 'Maintaining Australia's National Interests in Antarctica: Inquiry into Australia's Antarctic Territory', May 2018.

<sup>3</sup> Parliament of the Commonwealth of Australia, 2018.

<sup>4</sup> Australian Department of Defence, 'Operation Southern Discovery—Antarctic', webpage, undated.

<sup>5</sup> Parliament of the Commonwealth of Australia, 2018, p. 13.

<sup>6</sup> Australian Antarctic Program, 'Australian Antarctic Strategy and 20 Year Action Plan, Update 2022', 2022, p. 3.

<sup>7</sup> Parliament of the Commonwealth of Australia, 2018, p. 13.

<sup>8</sup> Australian Antarctic Program, 2022, p. 7.



Australia's 20-year strategy outlines four main mechanisms through which the country aims to achieve its national interests:

- **Leadership and influence in Antarctica:** The strategy proposes leadership through increased diplomatic engagement and strengthened collaborations with other states, with the objectives of upholding existing governance rules and norms, conserving the Antarctic environment, and fostering opportunities for contributing to large-scale research programs. Australia will also aim to expand its presence in Antarctica through developing capabilities and infrastructure, 'investing in and further modernising our Antarctic program so that it can continue to deliver world-class science and support the [ATS]'.<sup>9</sup>
- **Leadership and excellence in Antarctic science:** Priority themes for research are climate science to increase understanding of the interactions between climate, the weather, Antarctica and the Southern Ocean and marine science to protect Antarctic wildlife and promote sustainable management of fisheries by preventing illegal, unreported and unregulated (IUU) fishing.
- **Leadership in environmental stewardship:** Australia aims to be a leader in environmental management through such activities as the establishment of the Cleaner Antarctica science program to remove legacy waste and implementation of information and monitoring systems to protect the environment.
- **Development of economic, educational and collaborative opportunities:** This includes the development and promotion of Hobart, Tasmania, as a gateway city to the Antarctic and outreach and education to promote public understanding of Antarctica.<sup>10</sup>

Australia has recognised that 'maintaining Australia's position in the Antarctic is critical, particularly at a time when international activity in the region is increasing'.<sup>11</sup> Investment, particularly in infrastructure, has increased since 2016, notably including the construction of the icebreaker RSV *Nuyina*, which was commissioned in 2021.

As of February 2022, the Australian government has also announced increased investment in the Antarctic, pledging an additional AUD\$804 million over ten years to 'strengthen our strategic and scientific capabilities in the region'.<sup>12</sup> A large proportion of funding has been allocated to increase Australia's aerial and inland capability, in particular inland traverse capability, helicopters, drone fleets and other autonomous vehicles. Other focuses for investment include environmental management and research in marine science and climate change impacts, which will improve Australia's 'ability to support Pacific partners to monitor information about climate and oceans'.<sup>13</sup> Additionally, AUD\$3.4 million has been allocated to 'enhance Australia's international engagement to support the rules and norms of the Antarctic Treaty system and promote Australia's leadership in Antarctic affairs'.<sup>14</sup>

<sup>9</sup> Australian Antarctic Program, 2022, p. 3.

<sup>10</sup> Australian Antarctic Program, 2022.

<sup>11</sup> Parliament of the Commonwealth of Australia, 2018, p. xxi.

<sup>12</sup> Prime Minister of Australia, '\$800 Million to Strengthen Our Leadership in Antarctica', media release, 22 February 2022.

<sup>13</sup> Prime Minister of Australia, 2022.

<sup>14</sup> Prime Minister of Australia, 2022.

## Argentina

Argentina is an original signatory state to the AT and has been the seat of the ATS Secretariat since 2014.<sup>15</sup> It is one of seven states to make claims to Antarctic territory; it refers to its claim as *Antártida Argentina*. Antártida Argentina constitutes Antarctic land and sea between 74° and 25° west longitude and south of 60° south latitude. Argentina's claim overlaps with those of the UK and Chile; the AT froze these overlapping claims in 1961.

Argentina has a long and complex history with Antarctica, quite apart from its 1982 war with the UK over the nearby Falkland Islands and South Georgia Island.<sup>16</sup> Argentina has held a continuous presence in Antarctica since it established the Orcadas station on the South Orkney Islands in 1904 and declared that at least part of Antarctica was part of Patagonia.<sup>17</sup> In 1942, it made a formal claim to Antarctica between 25° and 68°34' west longitude and south of 60° south latitude.<sup>18</sup> In 1947, both Argentina and Chile rejected a British suggestion to resolve overlapping claims at the ICJ. Instead, Argentina and Chile 'agreed to cooperate in defending their respective rights'.<sup>19</sup> In an effort to stop what one scholar described as a 'scramble for Antarctica',<sup>20</sup> the AT froze overlapping Argentine, Chilean and UK claims, amongst others.

Argentina is an active supporter of the ATS and is a signatory to the Environmental (Madrid) Protocol, CCAS and CCAMLR.<sup>21</sup> The country upholds the tenets of the AT, including Article I, reaffirming that 'Antarctica is to be used exclusively for peaceful purposes and forbids any military activity, as well as the testing of any type of weapons'.<sup>22</sup>

The Argentine Antarctic Institute maintains six permanent bases (at Carlini, Orcadas, Esperanza, San Martín and Belgrano II) and seven seasonal bases (at Brown, Primavera, Decepción, Melchior, Matienzo, Cámara and Petrel).<sup>23</sup> The Argentine Antarctic Institute promotes a strong scientific agenda in line with the principles of the AT; it is 'advancing a proposal for a protected maritime area in the western zone of the Antarctic Peninsula and the northern part of the Scotia Arc, together with Chile' within the CCAMLR.<sup>24</sup> Under the terms of the AT, Chile and Argentina collaborate with other signatories 'to verify compliance with the obligations assumed by the Consultative Parties at various scientific bases'.<sup>25</sup> Argentina and the UK, despite their disagreements, continue to collaborate through the ATS mechanism.<sup>26</sup>

However, Argentina has also discovered how preexisting tensions with several states on Antarctic issues are becoming ripe for manipulation from within the ATS. Early in 2022, and amid tensions with the West over Ukraine, Russia provoked a quarrel among Argentina, the UK and the United States at CCAMLR over Patagonian toothfish. The feud 'sparked fears it could threaten wider international coop-

<sup>15</sup> Secretariat of the Antarctic Treaty, undated-d.

<sup>16</sup> For a brief background, see Benjamin J. Sacks, 'Whose Islands? The Cartographic Politics of the Falklands, 1763–1982', in Elri Liebenberg, Imre Josef Demhardt, and Soetkin Vervust, eds., *History of Military Cartography: 5th International Symposium of the ICA Commission on the History of Cartography, 2014*, Springer Cham, 2016, pp. 363–364.

<sup>17</sup> Milenky and Schwab, 1983, p. 52.

<sup>18</sup> Milenky and Schwab, 1983, p. 53; Dodds and Hemmings, 2013, p. 1442.

<sup>19</sup> Milenky and Schwab, 1983, p. 89.

<sup>20</sup> Hanessian, 1960, p. 436.

<sup>21</sup> Secretariat of the Antarctic Treaty, undated-d.

<sup>22</sup> Argentine Ministry of Foreign Affairs, International Trade and Worship, 'Antarctica', webpage, undated.

<sup>23</sup> Argentine Ministry of Foreign Affairs, International Trade and Worship, undated.

<sup>24</sup> Argentine Ministry of Foreign Affairs, International Trade and Worship, undated.

<sup>25</sup> Argentine Ministry of Foreign Affairs, International Trade and Worship, 'Third Argentina-Chile Joint Inspection of Foreign Stations in Antarctica', webpage, 6 March 2019.

<sup>26</sup> Bruno Arpi and A. J. Press, 'Will Great Power Competition in the South Atlantic Spill into Antarctica?' Australian Institute of International Affairs, 20 May 2021.



eration over the fishery and risks reviving Britain's tensions with Argentina' and illustrates how external issues and national trajectories are affecting the ATS by changing governance dynamics in the region.<sup>27</sup>

Argentina takes an assertive position concerning its Antarctic sovereignty. Despite the AT's freezing of signatory states' outstanding claims, Argentina declares that it possesses full sovereignty over Antártida Argentina and that it is an integral part of the Argentine state as part of the province of Tierra del Fuego, Antarctica and the South Atlantic Islands.<sup>28</sup> Argentina has assigned a minister within the Argentine Ministry of Foreign Affairs, International Trade and Worship who is responsible for South Atlantic, Antártida Argentina and Islas Malvinas (Falkland Islands) affairs, the latter of which is under the UK's complete control.<sup>29</sup> In 2020, the Argentine government used a 2016 United Nations Committee on Limits of the Continental Shelf decision extending mainland Argentina's continental shelf beyond the 200-nautical mile limit to justify the declaration of a 200-nautical mile EEZ around Antártida Argentina despite competing claims from Chile and the UK. In 2020, the Argentine government published a new map showing its expansive EEZ claim.<sup>30</sup> Argentina intends to maximise its rights associated with its claimed Antarctic EEZ, including

- a 12-nautical mile territorial sea
- 'sovereignty rights for exploration, exploitation, conservation and management of natural resources, both living and non-living'
- control over the EEZ, which it claims is 'part of the Argentine Republic'.<sup>31</sup>

Argentina defines its sovereignty over its Antarctic claim as 'effective in all aspects that are not limited by the signing of the Antarctic Treaty in 1959'.<sup>32</sup> Every year on February 22, Argentina celebrates 'Argentine Antarctica day'.<sup>33</sup> Antártida Argentina features prominently on Argentine maps and stamps.<sup>34</sup> One of its bases, Esperanza, contains many of the functions of a small town, including a school, cemetery, church, post office and radio station.<sup>35</sup> It is one of only two such civilian-scientific town-like communities in Antarctica, the other being Villa las Estrellas in the Chilean Antarctic Territory.<sup>36</sup> Esperanza has the distinction of being the community where, in 1978, the first individual was born in Antarctica.<sup>37</sup>

Argentina actively engages with Article I of the AT, which permits states to use their militaries in support of scientific operations only. In 1965, the Argentine military undertook an expedition called *Oper-*

<sup>27</sup> Karen McVeigh, 'US Accuses UK of Exploiting Russia Tensions to Fish Highly Prized Species', *The Guardian*, 24 June 2022.

<sup>28</sup> National Antarctic Directorate, Argentine Ministry of Foreign Affairs, International Trade and Worship, 'Antártida Argentina' [Antarctica Argentina], webpage, undated-b.

<sup>29</sup> See, for instance, National Antarctic Directorate, Argentine Ministry of Foreign Affairs, International Trade and Worship, 'La Cancillería, la CONAE y la Agencia Espacial Europea deciden continuar el proyecto "Tempus Pro Antártida"' [The Foreign Ministry, CONAE and the European Space Agency Decide to Continue the "Tempus Pro Antarctica" Project], webpage, 23 November 2021.

<sup>30</sup> 'Argentina Doubles in Size, or So It Claims', *The Economist*, 10 October 2020.

<sup>31</sup> Argentine Ministry of Foreign Affairs, International Trade and Worship, undated.

<sup>32</sup> Argentine Ministry of Education, '22 de febrero: Soberanía en la Antártida Argentina' [February 22: Sovereignty in Antarctica Argentina], webpage, undated.

<sup>33</sup> Augustina Larrea and Tomás Balmaceda, 'Por qué se celebra el Día de la Antártida Argentina' [Why Argentina Antarctica Day Is Celebrated], Argentine Ministry of Culture, webpage, 22 February 2021; 'Argentina Creates Antarctic Joint Command', *Santiago Times*, 2 May 2018.

<sup>34</sup> Sacks, 2016, pp. 372–373.

<sup>35</sup> Fundación Marambio, 'Base Antártica Esperanza', webpage, undated.

<sup>36</sup> 'Esperanza Base—Antarctica', Atlas Obscura, webpage, 24 July 2013.

<sup>37</sup> Marshall Van Sant Hall, 'Argentine Policy Motivations in the Falklands War and the Aftermath', *Naval War College Review*, Vol. 36, No. 6, November–December 1983, p. 28.

*acción 90* to assert Argentina's claim relative to that of Chile and the UK.<sup>38</sup> In 2018, the Argentine military established an 'Antarctic Joint Command' responsible for providing logistical support to the state's permanent and temporary Antarctic bases.<sup>39</sup> Argentina's government has voiced concerns that China and Russia might seek to exploit natural resources on the Antarctic continent over the next 30 years.<sup>40</sup>

## Brazil

Brazil's large-scale involvement in the Antarctic dates back to 1982, when the Brazilian government created the Brazilian Antarctic Program (PROANTAR) to promote scientific research in the region.<sup>41</sup> Brazil began to send the icebreaker *Barão de Teffé* to the region that same year, and the country achieved consultative status in the ATS in 1983.<sup>42</sup> Although it had acceded to the AT in 1975, its obtaining consultative status reflected the fact that it was carrying out substantial scientific activity in the Antarctic, enabling it to participate in meetings that addressed Antarctic issues and to help shape decisions regarding the continent. Part of the explicit motivation for creating PROANTAR was to achieve consultative status; the program continues to this day in part to retain that status. In 1984, Brazil established a permanent base in the Antarctic, Comandante Ferraz Antarctic Station, on an island just north of the Antarctic Peninsula (in territory claimed by Argentina, Britain and Chile). The base burned down in 2012 but was re-established in 2020.<sup>43</sup>

Brazil's Antarctic programs are overseen by the Interministerial Commission for Maritime Resources (CIRM). CIRM involves the ministries of defence, the environment, science and technology, and external affairs.<sup>44</sup> Previously, there were three entities addressing Antarctic affairs: CIRM; the National Commission for Antarctic Affairs (CONANTAR), which oversaw policy; and the National Committee on Antarctic Research (CONAPA). Both CONANTAR and CONAPA were dissolved by presidential decree in 2019, leaving CIRM as the sole Antarctic authority reporting to the president.<sup>45</sup>

Brazil's National Policy for Antarctic Affairs, created in 1987 and updated in 2021, aims to promote peaceful research, environmental protection and international cooperation under the aegis of the AT, while also securing Brazilian interests in the region.<sup>46</sup> The 2021 version differs from its predecessor mainly in terms of the increased focus on Brazilian national interests in the Antarctic. Specifically, the 2021 version emphasises the need for Brazil to expand its presence in the Antarctic, maintain its consultative status in the ATS and address the Antarctic more heavily in science, foreign policy and defence

<sup>38</sup> National Antarctic Directorate, Argentine Ministry of Foreign Affairs, International Trade and Worship, '1957–1990: Ciencia y Paz' ['1957–1990: Science and Peace'], webpage, undated-a.

<sup>39</sup> National Antarctic Directorate, Argentine Ministry of Foreign Affairs, International Trade and Worship, 'Argentine Antarctica Day', webpage, undated-c.

<sup>40</sup> Benedict Mander, 'Antarctic Mission Underlines Argentina's Territorial Claims', *Financial Times*, 20 January 2017.

<sup>41</sup> Ministério do Meio Ambiente, 'Sistema Antártico Brasileiro', webpage, undated.

<sup>42</sup> Adriana Erthal Abdenur and Danilo Marcondes Neto, 'Rising Powers and Antarctica: Brazil's Changing Interests', *Polar Journal*, Vol. 4, No. 1, 18 June 2014; Ignacio Javier Cardone, 'La apuesta brasileña en la Antártida: trayectoria reciente y perspectivas futuras a la luz de la inauguración de la nueva Estación Antártica Comandante Ferraz' ['The Brazilian Bet on Antarctica: Recent Trajectory and Future Perspectives in Light of the Inauguration of the New Comandante Ferraz Antarctic Station'], *Cuadernos de Política Exterior Argentina (Nueva Época)* [Notebook of Argentine Foreign Policy (New Era)], Vol. 133, June 2021.

<sup>43</sup> Cardone, 2021.

<sup>44</sup> Ministério do Meio Ambiente, undated.

<sup>45</sup> Ministério do Meio Ambiente, undated; Cardone, 2021.

<sup>46</sup> Decreto 94.401 [Decree 94.401], 'Aprova a Política Nacional para Assuntos Antárticos' ['Approval of the National Policy on the Arctic'], Presidência da República [Presidency of the Republic], Casa Civil, Subchefia para Assuntos Jurídicos, 3 June 1987; 'Resolução Nº 3, de 18 de maio de 2021', Órgão: Ministério da Defesa/Comando da Marinha/Secretaria da Comissão Interministerial para os Recursos do Mar, webpage, 2021.

policy. The policy also calls for the government to foster thinking about the Antarctic across Brazilian society.<sup>47</sup>

Although Brazil's government views the Antarctic as important, the country has difficulty allocating resources, personnel and attention to the region. That said, the Brazilian Navy maintains a keen interest in the region; its Plan Estratégico da Marinha 2040, a 20-year plan promulgated in 2020, includes calls for the service to support the Brazilian presence in the Antarctic pursuant to PROANTAR; contribute to infrastructure development and logistical capacity to support research; help with the reestablishment of Brazil's Antarctic station (now accomplished); and present all of these activities to the public, especially political leaders. However, as an indication of the relative priority of the Antarctic, the region is discussed (other than in passing) in just one paragraph across the plan's 90 pages; it is revealing that the 'Blue Amazon' is mentioned 18 times, while 'Antarctic' and 'Antarctica' collectively appear five times.<sup>48</sup> A 16-page overview of the plan by the Brazilian Chief of Naval Operations mentions the Antarctic as the southern boundary of Brazil's strategic environment and cites actual Antarctic activity only in two sentences towards the end of the document.<sup>49</sup> In summary, Brazil's Navy is the leading agency for the Antarctic but has copious other responsibilities on which it needs to focus.

Overall, Brazil's position with respect to the Antarctic appears to have no evident conflicts with the positions of other states. The country is a strong supporter of the ATS, in which it aims to achieve a consultative and participatory role. Brazil claims no Antarctic territory and does not appear to have substantial concerns about other states' activities in the region. Although Brazil has the largest economy and second-largest population in the Southern Hemisphere—and global aspirations that reflect its size—its actions in the Antarctic are focused on science and technology, environmental protection, international cooperation (including with other South American states that have territorial claims) and development of its presence in the region without creating conflict.<sup>50</sup> Brazil has indicated an interest in potential economic resources in the region and notes the region's strategic importance but has not been aggressive with respect to its own national interests in the Antarctic. In short, it would be hard for other powers to perceive Brazil's actions or plans in Antarctica as anything but benign.

## Chile

Chile is an original signatory state to the AT.<sup>51</sup> Chile is the closest country to Antarctica and is one of seven states to make formal claims to Antarctic territory; it refers to its claim as *Territorio Chileno Antártico* or *Antártico Chilena*. Antártico Chilena constitutes Antarctic land and sea between 53° and 90° west longitude and south of 60° south latitude. Chile's claim overlaps with those of the UK and Argentina. Antártico Chilena is administered as part of the Magellan and Chilean Antarctic region, and its capital is at Puerto Williams on the Chilean mainland in Tierra del Fuego. Chile possesses 13 bases: four permanent ones (Presidente Eduardo Frei Montalva, Bernardo O'Higgins Riquelme, Capitán Arturo Prat and Julio Escudero), five seasonal ones (Yelcho, Doctor Guillermo Mann, Presidente Gabriel Gonzalez Videla, Estación Polar Científica Conjunta 'Glaciar Unión' and Carvajal) and four shelters (Julio Ripamonti, Luis

<sup>47</sup> Luiz Padilha, 'Comissão Interministerial para os Recursos do Mar atualiza a POLANTAR' ['Interministerial Commission for the Resources of the Sea Updates POLANTAR'], Defesa Aérea & Naval, 21 May 2021.

<sup>48</sup> Marinha do Brasil, 'Plan Estratégico da Marinha 2040', webpage, 2020.

<sup>49</sup> Miguel Patrice Philippe Dhenin, 'Navy Strategic Plan PEM 2040', *Revista Escola Guerra Naval*, Vol. 27, No. 1, January–April 2021.

<sup>50</sup> Abdenur and Neto, 2014. Regarding Brazil's status as the second-most populous country in the Southern Hemisphere, Indonesia has a larger population within the hemisphere, even though some of its people live north of the equator (as is also the case for Brazil).

<sup>51</sup> Secretariat of the Antarctic Treaty, undated-d.

Risopatrón, General Jorge Boonen Rivera and Collins).<sup>52</sup> These installations are spread throughout the South Shetland Islands, the Antarctic Peninsula and the Ellsworth Mountains.<sup>53</sup>

Like several other signatory states to the AT, Chile has a long association with Antarctica. As early as 1884, Alejandro Bertrand published a map incorporating ‘the South American sector of Antarctica’.<sup>54</sup> In the early 20th century, Chilean whalers set up seasonal camps in the South Shetland Islands and the Antarctic Peninsula. In 1940, Chile’s government declared a formal claim (Decree No. 1747) over a portion of the Antarctic continent that broadly adhered to its current claim coordinates.<sup>55</sup> In 1947, Chile signed an agreement with Argentina in which both parties agreed not to contest each other’s overlapping claims. In 1955, both Chile and Argentina formally rebuffed efforts by the UK to settle the three countries’ overlapping claims in the ICJ.<sup>56</sup> The AT froze these competing claims in 1961. Chile nevertheless argues that ‘the boundaries of Chile in said polar region constitute a natural prolongation of the national soil’.<sup>57</sup> Chile, like several other claimant states, therefore identifies Antártico Chilena as an integral part of the Chilean state.<sup>58</sup> Like Argentina, Chile also claims an extended continental shelf and EEZ to the west from Antártico Chilena.<sup>59</sup>

As a claimant state, Chile is a strong supporter of the ATS and is a signatory to the CCAS and the CCAMLR.<sup>60</sup> In 1963, the Chilean government established the Chilean Antarctic Institute to oversee scientific activities within Antártico Chilena.<sup>61</sup> The Chilean Antarctic Institute’s mission is to establish, through the tenets of the ATS, a strong scientific presence in Antártico Chilena; ‘strengthen Puntas Arenas [on the Chilean mainland] as a gateway to Antártico Chilena’; and promulgate Antarctic research both nationally and internationally.<sup>62</sup> The institute’s mission also includes fomenting bilateral and multilateral cooperation among states in mutual Antarctic scientific activities. Chile’s Antarctic Directorate has published a 2021–2025 Antarctic Strategic Plan. This plan calls for 103 projects, including ‘the consolidation of the International Antarctic Center and progress of the Climate Change Observatory’ and renovations to major installations.<sup>63</sup> The plan additionally calls for greater national education about Antártico Chilena.<sup>64</sup>

Chilean national objectives in the Antarctic also include a desire to conceive of the Antarctic Peninsula as a geomorphological ‘bridge’ between the Andes Mountains and Antarctica. Chilean official documents suggest that Chile therefore should be a metaphorical bridge between the South American and

<sup>52</sup> INACH, ‘Bases refugios y transporte’ [‘Shelter Bases and Transportation’], webpage, 18 June 2020.

<sup>53</sup> Scientific Committee on Arctic Research, ‘Chile’, webpage, undated.

<sup>54</sup> Guzmán-Gutiérrez, 2010, p. 266, fn. 13.

<sup>55</sup> Hanessian, Frazier, and Neidle, 1958, p. 153, fn. 24.

<sup>56</sup> International Court of Justice, undated.

<sup>57</sup> Peter J. Beck, *The International Politics of Antarctica*, St. Martin’s Press, 1986, p. 121, sourced in Vicente Donoso, *Chilean Strategy Towards Antarctica*, thesis, Air University, 16 February 2016, p. 21.

<sup>58</sup> See, for instance, Jonathan R. Barton and Felipe Irrarázaval, ‘Geographical Representations: The Role of the Military in the Development of Contemporary Chilean Geography’, *Area*, Vol. 46, No. 2, June 2014, p. 133.

<sup>59</sup> Latin American News, ‘Chile Announces an Extended Continental Shelf to the West of Antarctica’, *Rio Times*, 16 December 2021; Chilean Ministry of Foreign Affairs, ‘President Piñera Joined by Foreign Minister Allamand Announce Presentation to the United Nations of the Extended Continental Shelf to the West of the Antarctic Peninsula’, webpage, 15 December 2021.

<sup>60</sup> Secretariat of the Antarctic Treaty, undated-d.

<sup>61</sup> INACH, ‘Historia’ [‘History’], webpage, 10 June 2021.

<sup>62</sup> INACH, ‘Misión y Objetivos’ [‘Mission and Objectives’], webpage, 26 July 2019.

<sup>63</sup> Government of Chile, ‘Antarctic Policy Council Approves the 2021–2025 Antarctic Strategic Plan’, webpage, 30 June 2021.

<sup>64</sup> Government of Chile, 2021.

Antarctic continents.<sup>65</sup> Importantly, however, Chile does not conceive of this in purely national terms; its objectives explicitly include ‘encourag[ing] other National Antarctic Programs to place Puntas Arenas as a gateway to Antarctica’.<sup>66</sup>

Like Argentina, Chile has established a small joint research-civilian community to bolster its Antarctic claim. In 1984, President Augusto Pinochet ordered the establishment of the town of Villa las Estrellas at the existing Montalva base.<sup>67</sup> As of 2023, it is home to approximately 200 inhabitants (including scientists), a schoolhouse, a bank, a runway capable of handling C-130 *Hercules*, a post office, a gym and regular barbecues.<sup>68</sup> As of late 2021, Chilean officials are also considering laying a submarine fiber-optic cable to Chile’s Antarctic facilities.<sup>69</sup> At least one individual, Juan Pablo Camacho, has been born at Villa las Estrellas.<sup>70</sup>

## China

China increasingly has expressed its desire to enhance its engagement in Antarctic affairs as its economic influence and military capabilities continue to grow. Scholars and analysts have documented Chinese officials’ demonstrated interest in Antarctica. Chinese General Secretary Xi Jinping reportedly announced China’s intentions of becoming a ‘polar great power’ during a speech in Australia in 2014.<sup>71</sup> Chinese military sources have also considered the polar regions as one of China’s new ‘strategic frontiers’, with the government’s 2020 *Science of Military Strategy* arguing that ‘[t]he polar regions have become an important direction for our country’s interests to expand overseas and far frontiers, and it has also proposed new issues and tasks for the use of our country’s military power’.<sup>72</sup>

In recent years, Chinese sources have become more explicit about Chinese Communist Party (CCP) ambitions in Antarctica. In May 2017, the Chinese government released a white paper titled ‘China’s Antarctic Activities’ that emphasised the following points:

- Antarctica is about the future of human survival and sustainable development . . . it is in the common interest of China and the international community to build an Antarctica that is peaceful, stable, environmentally friendly, and governed by fair governance.
- China will unswervingly follow the path of peaceful use of Antarctica, resolutely safeguard the stability of the Antarctic Treaty System, increase investment in Antarctic activities, and enhance the ability to participate in Antarctic global governance.
- In the future, China is willing to work with the international community to jointly promote the establishment of a more just and reasonable international Antarctic order, and work together to build an Antarctic ‘community with a shared future for mankind’ . . .<sup>73</sup>

<sup>65</sup> INACH, 2019.

<sup>66</sup> INACH, 2019.

<sup>67</sup> Simon Romero, ‘Antarctic Life: No Dog, Few Vegetables and “a Little Intense” in the Winter’, *New York Times*, 6 January 2016.

<sup>68</sup> Romero, 2016.

<sup>69</sup> Michael Wenger, ‘Chile Plans Fiber Optic Cable to Antarctica’, *Polar Journal*, 30 November 2021.

<sup>70</sup> Romero, 2016.

<sup>71</sup> Rush Doshi, Alexis Dale-Huang, and Gaoqi Zhang, *Northern Expedition: China’s Arctic Activities and Ambitions*, Brookings Institution, April 2021, p. 9.

<sup>72</sup> China Aerospace Studies Institute, Air University, *In Their Own Words: Science of Military Strategy 2020*, U.S. Department of the Air Force, January 2022, p. 162.

<sup>73</sup> Central People’s Government of the People’s Republic of China [中华人民共和国中央人民政府], ‘State Oceanic Administration Releases “China’s Antarctic Undertakings”’ [‘国家海洋局发布《中国的南极事业》’], webpage, 23 May 2017.



Although China has not made any claims to territory in Antarctica, Chinese scholars and officials, including General Secretary Xi, have worked to position China as a responsible global power by emphasising the importance of international cooperation and avoiding ‘mutual games’ in ‘new frontiers’, such as the polar regions.<sup>74</sup> Chinese sources, such as Wang Hong, director of China’s State Oceanic Administration, consider the ATS a ‘solid legal basis for the international community to handle Antarctic affairs’ and stress that the ATS, with the ‘Antarctic Treaty at its core, guarantees peaceful use, guarantees scientific freedom, promotes international cooperation, and has made great contributions to the protection of the Antarctic environment and ecosystem’.<sup>75</sup>

Scholars and analysts outside China have argued that Chinese activities in Antarctica support the CCP’s domestic political interests. In a Lowy Institute article, Claire Young argues that the CCP

needs to keep China’s economy strong, secure technological leadership, and demonstrate China’s power in global affairs. In Antarctica, that translates into growing exploitation of fisheries, Chinese ownership of tourism opportunities, access to Western technology through joint projects, and international acquiescence to China’s preferences in the ATS.<sup>76</sup>

The Wilson Center’s Anne-Marie Brady has also found that the 2013 and 2014 ‘annual reports on China’s polar policy both emphasised that access to the considerable natural resources at the two poles was essential for the continued growth of the Chinese economy’.<sup>77</sup>

China has criticised other countries for increasing their strategic presence in Antarctica. China recently condemned Australia’s plan to increase its scientific activities and strategic presence in Antarctica; the Chinese *Global Times* published an article arguing that ‘[b]ringing the outdated Cold War mentality to Antarctica, Australia will only fall into another confrontation trap of its own making’.<sup>78</sup> Other, less authoritative Chinese sources have also expressed concerns over being excluded from regional decisionmaking. In a 2007 interview, Ocean University of China scholar Guo Peiqing argued that ‘[t]hings that happen in the Arctic and Antarctic involve China’s rights and interests. During this process we should guard against some individual states casting China aside’.<sup>79</sup>

The consistent development of China’s Antarctic scientific infrastructure and resources also indicates the country’s growing interest in Antarctic affairs. Notable developments include the expected opening of China’s fifth Antarctic research centre in 2024 near the Ross Sea, the development of two icebreakers to support Antarctic scientific research, and 38 Antarctic research expeditions.<sup>80</sup> However, Chinese sources seem to view scientific activities in Antarctica as a tool to gain a ‘right to speak’ in regional affairs, allowing China to have greater influence in the region.<sup>81</sup> Brady has noted that an ‘[e]xpanding

<sup>74</sup> ‘Yang Jian: Leading International Governance in New Frontiers with the Thought of “Community of Shared Future for Mankind”’ [‘杨剑:以“人类命运共同体”思想引领新疆域的国际治理’], *People’s Daily*, webpage, 23 June 2017; Nengye Liu, ‘What Are China’s Intentions in Antarctica?’ *The Diplomat*, 14 June 2019; Álvaro Etchebaray, ‘The Growing Cloud of China in Antarctica’, *The China Project*, 3 November 2020; Lei Zhao, ‘Antarctic capacity Will Be Boosted’, *China Daily*, 23 May 2017. Yang Jian is a vice president and researcher at the Shanghai Institutes for International Studies.

<sup>75</sup> Central People’s Government of the People’s Republic of China [中华人民共和国中央人民政府], 2017.

<sup>76</sup> Claire Young, *Eyes on the Prize: Australia, China, and the Antarctic Treaty System*, Lowy Institute, 15 February 2021.

<sup>77</sup> Anne-Marie Brady, *China’s Expanding Antarctic Interests: Implications for Australia*, Australian Strategic Policy Institute, August 2017.

<sup>78</sup> Wang Yi, ‘Australia’s Antarctica Plan Stems from Its Hostility Toward China’, *Global Times*, 22 February 2022, as mentioned in Phil Mercer, ‘Australia’s Antarctic Plans Anger China’, *Voice of America*, 24 February 2022. The author, Wang Yi, seems to be a journalist with the *Global Times* and not China’s current foreign minister.

<sup>79</sup> Doshi, Dale-Huang, and Zhang, 2021, p. 16.

<sup>80</sup> ‘China’s 38th Antarctic Expedition Begins’, *Xinhua*, 5 November 2021.

<sup>81</sup> For examples, see Ministry of Natural Resources of the People’s Republic of China [中华人民共和国自然资源部], ‘The Polar Chapter of a Series of Reports on the 40 Years of Reform and Opening Up of China’s Maritime Industry’ [‘中国海洋事业改革开放40年系列报道之极地篇’], webpage, 9 July 2018; and Yang Haixia [杨海霞], ‘Antarctic Competition and

presence in Antarctica is understood by the Chinese government as a means to establish necessary physical foundations for Antarctic resource rights, Antarctic governance rights, and the future opening up of resources'.<sup>82</sup>

## France

France administers its territorial claims in the Antarctic and sub-Antarctic as an overseas territory called the *French Southern and Antarctic Lands* (Terres australes et antarctiques françaises [TAAF]). The TAAF consist of the Scattered Islands near Madagascar, the French Southern Lands (Amsterdam, Saint-Paul, Crozet and Kerguelen Islands) in sub-Antarctica and Adélie Land on the Antarctic continent. Adélie Land covers 167,000 square miles (approximately the size of California) and is host to a permanent research station (Dumont d'Urville) and a summer station (Cap Prud'homme). France also has a joint scientific base with Italy (Concordia) that is located in the Australian territorial claim. The Paul-Emile Victor French Polar Institute (Institut polaire français Paul-Émile Victor [IPEV]) is in charge of operating these research stations and the *Astrolabe* icebreaker that resupplies them and manages all French scientific projects taking place in Antarctica.<sup>83</sup> In 2022, France published a new polar strategy, titled *Balancing the Extremes: France's Polar Strategy to the 2030 Horizon*, which, for the first time, includes Antarctica. The strategy reaffirms France's commitment to '[d]efend the system of the Antarctic Treaty'.<sup>84</sup>

The French Ministry of Foreign Affairs handles all matters related to Antarctica and relations with other members of the AT; matters pertaining to Adélie Land or the Franco-Italian base of Concordia are considered internal matters. The French Ministry of Foreign Affairs highlights scientific research, the protection of the AT's principles and the protection of the environment as key areas for French engagement in Antarctica.<sup>85</sup>

For protection of the environment, in particular, France has been a strong supporter of strict environmental regulations in Antarctica, creating frustration, in particular, on the part of China, which interprets France's (and others') efforts to protect the environment as an attempt to limit other parties' ability to establish a larger presence in Antarctica.<sup>86</sup> France—along with Australia, New Zealand, the UK and the United States—has been advocating since 2012 for the creation of three MPAs, which China and Russia have been opposing.<sup>87</sup> As of 2021, the French Ministry for Europe and Foreign Affairs still described France as 'very engaged in the elaboration and defense of this project', and then—French Foreign Minister Jean-Yves Le Drian expressed his hope that 'the two large countries that we still have to convince will soon see its soundness'.<sup>88</sup> The 2022 Polar Strategy reaffirms France's demand to create

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Chinese Strategy—Interview with Zhang Xia, Director of Polar Strategy Research Office at the China Polar Research Center' ['南极竞争与中国战略—专访中国极地研究中心极地战略研究室主任张侠'], *China Investment*, No. 17, 2018; and Doshi, Dale-Huang, and Zhang, 2021, p. 14.

<sup>82</sup> Anne-Marie Brady, 'China's Undeclared Foreign Policy at the Poles', *The Interpreter*, 30 May 2017.

<sup>83</sup> French Ministry for Europe and Foreign Affairs, 'La France en Antarctique' ['France in Antarctica'], webpage, February 2021.

<sup>84</sup> French Government, *Équilibrer les extrêmes: Stratégie polaire de la France à horizon 2030* [*Balancing the Extremes: France's Polar Strategy to the 2030 Horizon*], April 2022, pp. 93–94.

<sup>85</sup> French Ministry for Europe and Foreign Affairs, 2021.

<sup>86</sup> Anne-Marie Brady, *China as a Polar Great Power*, Woodrow Wilson Center Press and Cambridge University Press, 2017, p. 209.

<sup>87</sup> Brady, 2017, p. 213.

<sup>88</sup> French Ministry for Europe and Foreign Affairs, 2021; Jean-Yves Le Drian, 'L'avenir de la planète dépend de l'Antarctique, selon le Ministre' ['Minister: Our Planet's Future Depends on Antarctica'], French Embassy in the United Kingdom, press release, 15 June 2021.

MPAs in Western Antarctica and in the Weddell Sea.<sup>89</sup> In February 2022, French President Emmanuel Macron announced that the TAAF would become a natural preserve—the largest such marine reserve in the world, covering 1.66 million square kilometres.<sup>90</sup>

Relatedly, France and Australia are the only two parties to the AT that refused to ratify the CRAMRA in the late 1980s, effectively rendering it obsolete because all seven states with territorial claims in Antarctica needed to ratify the CRAMRA for it to enter into force. This decision was particularly criticised by New Zealand. France and Australia's proposal to create an international wilderness reserve instead was met at the time with opposition by the United States, the UK and the Soviet Union.<sup>91</sup>

France was instrumental, again with Australia, in the drafting of, and support for, the Madrid Protocol that was adopted in 1991.<sup>92</sup> The Madrid Protocol formalises the prohibition of mining activities in the Antarctic—in line with France's refusal, two years earlier, to ratify the CRAMRA.

France's relations with China in the Antarctic have been tense since 2008 because of France's criticism of Chinese policies towards Tibet; the relations have not recovered, essentially resulting in a lack of scientific cooperation in Antarctica between the two countries.<sup>93</sup>

In June 2021, Le Drian reaffirmed the 'need to place Antarctica outside of power competitions, in the name of international peace and stability, the progress of scientific knowledge, and the preservation of our planet's biodiversity'. He also highlighted the dramatic increase in tourism in Antarctica and the 'collective responsibility' of the AT's parties to ensure that this will not undermine the AT's principles or the protection of the continent's environment.<sup>94</sup> The 2022 Polar Strategy calls for 'the most constraining and ambitious regulations possible' in relation to tourism in Antarctica.<sup>95</sup>

France has been dedicating limited financial means to Antarctic research. Indeed, expenditure on Antarctic-related research is much higher in Italy, South Korea, Australia and Germany than it is in France. France also has no polar-capable research vessel, its infrastructure is aging quickly, and the number of French researchers in Antarctica has decreased because of lack of funding.<sup>96</sup> Limited funding has compelled France to undertake more activities with partners, particularly Germany and Australia.<sup>97</sup> When the *Astrolabe* icebreaker experienced major damage in November 2019, France had to rely on Australia and its *Aurora Australis* icebreaker to resupply French stations.<sup>98</sup>

In June 2021, however, French Prime Minister Jean Castex announced that France would increase its budget for polar research and establish a polar research agenda for the next 15 years.<sup>99</sup> In October 2021, French Minister for Research Frédérique Vidal announced that the Dumont d'Urville research station

<sup>89</sup> French Government, 2022, p. 95.

<sup>90</sup> French Government, 2022, p. 15.

<sup>91</sup> Deborah Cook Waller, 'Death of a Treaty: The Decline and Fall of the Antarctic Minerals Convention', *Vanderbilt Journal of Transnational Law*, Vol. 22, No. 3, 1989.

<sup>92</sup> S. K. N. Blay, 'New Trends in the Protection of the Antarctic Environment: The 1991 Madrid Protocol', *American Journal of International Law*, Vol. 86, No. 2, April 1992, p. 378.

<sup>93</sup> Brady, 2017, p. 235.

<sup>94</sup> Le Drian, 2021.

<sup>95</sup> French Government, 2022, p. 95.

<sup>96</sup> Martina Valo, 'La recherche polaire française est à un tournant par manque de moyens' ['Interview of IPEV Director Jérôme Chappellaz'], *Le Monde*, 26 June 2021; Annick Berger, 'Antarctique, la fin du miracle français?' *Slate.fr*, 13 October 2019; Marc Cherki, 'Antarctique: la recherche polaire française obtient des promesses de financement' ['Antarctica: French Polar Research Receives Funding Promises'], *Le Figaro*, 15 June 2021; Marianne Enault, 'En Antarctique, la base polaire française Dumont d'Urville va être rénovée' ['In Antarctica, French Polar Base Dumont d'Urville Will Be Renovated'], *Le Journal du Dimanche*, 26 October 2021.

<sup>97</sup> French National Assembly, Question No. 26581 from Jean-Luc Lagleize, 11 February 2020.

<sup>98</sup> 'Le nouveau navire polaire Astrolabe submit une avarie', Agence France-Presse, 18 November 2019.

<sup>99</sup> Cherki, 2021.



would receive a total of 8 million Euros over four years for its renovation, an amount that is below the 30 to 40 million Euros over five years that had been requested by the IPEV for that purpose. The 2022 Polar Strategy plans for an increase in the number of scientists deployed in the Arctic and Antarctica (from 320 to 500) and an increase in IPEV's budget.<sup>100</sup> The 2022 Polar Strategy also highlights the need for an icebreaker, although there is not yet a clear path forward to acquire one.<sup>101</sup> The renovation of the Concordia station is planned to last until 2035, and the renovation of the Dumont d'Urville station will take place between 2025 and 2035. By 2030, it is also expected that the *Marion Dufresne* oceanographic and resupplying ship, as well as three other oceanographic ships, will need to be replaced.<sup>102</sup> As of 2022, France was building a vertical ship and oceanographic platform called *Polar Pod*, which will collect scientific data in Antarctica.<sup>103</sup>

## India

India is a consultative signatory to the ATS, acceding to it in August 1983, and it has signed the Environmental (Madrid) Protocol and the CCAMLR.<sup>104</sup> The first Indian scientific expedition to Antarctica was conducted in 1981; as of 2021, India has carried out 40 scientific expeditions.<sup>105</sup> India maintains two permanent research stations (Maitri and Bharati). India's first permanent research base (Dakshin Gangotri) is managed as a supply base.<sup>106</sup>

Prior to the original negotiations of the ATS, in 1956, India raised Antarctica as an item for the agenda at the United Nations General Assembly, proposing a debate on sovereignty of the continent. India suggested that 'claims to national sovereignty in Antarctica represented outdated vestiges of European colonialism', expressing 'concern at the political consequences of the continuing sovereignty dispute between Great Britain, Argentina, and Chile in the Antarctic Peninsula region'.<sup>107</sup> India also raised concerns over climate and environmental issues and the detrimental impacts of nuclear weapons testing in Antarctica. However, India's proposal was faced with hostility, particularly from claimant states, and was ultimately withdrawn.<sup>108</sup>

The Indian Antarctic Programme is operated and administered through the National Centre for Polar and Ocean Research (NCPOR) in the Indian Ministry of Earth Sciences.<sup>109</sup> NCPOR is mandated

(1) to explore the polar regions to understand the role and response of cryosphere in climate change through an integrated multi-disciplinary study from all three poles (Antarctica, Arctic, and Himalaya) including the Southern Ocean; and (2) Survey and Exploration of Ocean non-living resources in the Indian Ocean.<sup>110</sup>

<sup>100</sup> French Government, 2022, pp. 63–64.

<sup>101</sup> French Government, 2022, p. 30.

<sup>102</sup> French Government, 2022, pp. 15–16.

<sup>103</sup> French Government, 2022, p. 102.

<sup>104</sup> Secretariat of the Antarctic Treaty, undated-d.

<sup>105</sup> National Centre for Polar and Ocean Research, Ministry of Earth Sciences, Government of India, *ESSO-NCPOR Annual Report 2020-2021*, 2021.

<sup>106</sup> Jacob Koshy, 'A Law, This Time for Antarctica', *The Hindu*, 23 June 2017.

<sup>107</sup> Adrian Howkins, 'Defending Polar Empire: Opposition to India's Proposal to Raise the "Antarctic Question" at the United Nations in 1956', *Polar Record*, Vol. 44, No. 1, January 2008, p. 35.

<sup>108</sup> Howkins, 2008.

<sup>109</sup> National Centre for Polar and Ocean Research, Ministry of Earth Sciences, Government of India, 2021.

<sup>110</sup> National Centre for Polar and Ocean Research, Ministry of Earth Sciences, Government of India, 2021.

NCPOR's mission is to

plan, promote, coordinate and execute the entire gamut of polar science and logistics activities of the country in order to ensure a perceptible and influential presence of India in the polar regions and to uphold our strategic interest in the global framework of Nations engaged in the studies of the polar regions and surrounding oceans.<sup>111</sup>

NCPOR aims to achieve this through 'scientific expeditions, knowledge sharing and research publications'.<sup>112</sup>

India prides itself on its contributions to scientific research and views Antarctica as 'one of the most pristine laboratories, of world-wide significance' and 'an excellent opportunity for conducting scientific research for the benefit of all mankind'.<sup>113</sup> India sees Antarctica as having an 'important place while answering the key questions about the global climate change such as contribution towards global sea – level, the background aerosol properties, variability in the sea ice cover and phenomenon like Antarctic haze and Ozone concentrations'.<sup>114</sup> India has interests in the role of Antarctica, the Arctic and the Himalayas in climate change, in particular in relation to weather patterns and monsoons, which are critical to its 'food security and wellbeing of its vast rural sector'.<sup>115</sup> Recent research has largely focused on cryospheric and ice core, remote sensing, lacustrine and environmental studies.<sup>116</sup>

New legislation for the Indian Antarctic Act was passed in 2022. The act aims to 'provide for national measures for protecting the Antarctic environment',<sup>117</sup> with one of its main aims being to 'ensure demilitarization of the region along with getting it rid of mining or illegal activities'.<sup>118</sup> The bill also proposes the establishment of the Indian Antarctic Authority as a decisionmaking authority.

The objectives of the bill are to

- Ensure fulfilment of obligations of India under the Antarctic Treaty of 1959, to the Convention on the Conservation of Antarctic Marine Living Resources of 1982, and to the Protocol on Environmental Protection to the Antarctic Treaty of 1998
- Promote Antarctica as a natural reserve, devoted to peace and science and to ensure that Antarctica does not become the scene or object of international discord
- Ensure the comprehensive protection of the Antarctic environment and dependent and associated ecosystems
- Facilitate and promote research in Antarctica by institutions and individuals permitted by India.<sup>119</sup>

<sup>111</sup> National Centre for Polar and Ocean Research, Ministry of Earth Sciences, Government of India, 2021.

<sup>112</sup> National Centre for Polar and Ocean Research, Ministry of Earth Sciences, Government of India, 2021.

<sup>113</sup> National Centre for Polar and Ocean Research, Ministry of Earth Sciences, Government of India, 'India in Antarctica', webpage, undated-a.

<sup>114</sup> National Centre for Polar and Ocean Research, Ministry of Earth Sciences, Government of India, undated-a.

<sup>115</sup> Ministry of Earth Sciences, Government of India, *India's Arctic Policy: Building a Partnership for Sustainable Development*, 2022a.

<sup>116</sup> National Centre for Polar and Ocean Research, Ministry of Earth Sciences, Government of India, 2021.

<sup>117</sup> National Centre for Polar and Ocean Research, Ministry of Earth Sciences, Government of India, 'The Indian Antarctic Act 2022', webpage, 16 May 2023.

<sup>118</sup> Ministry of Earth Sciences, Government of India, 'Parliament Passes the Indian Antarctic Bill, 2022 Aimed at Having India's Own National Measures for Protecting the Antarctic Environment and Dependent and Associated Ecosystem', press release, 1 August 2022b.

<sup>119</sup> Ministry of Earth Sciences, Government of India, 'Explanatory Memorandum Indian Antarctic Bill', 2020.

India is investing in its infrastructure in Antarctica and plans to expand and upgrade its Maitri base for the next 30 years.<sup>120</sup> NCPOR owns and operates a research vessel, ORV *Sagar Kanya*.<sup>121</sup> India has also focused efforts on the Arctic in recent years: Its first scientific expedition was in 2007, and it released its Arctic Policy in March 2022.<sup>122</sup>

## Malaysia

Malaysia is a non-consultative signatory to the ATS. It acceded to the ATS in October 2011 and adopted the Environmental (Madrid) Protocol in September 2016.<sup>123</sup> Malaysia's position on Antarctica has evolved over years of interest and engagement prior to its accession.<sup>124</sup> In 1983, Malaysia, alongside Antigua and Barbuda, raised the Question of Antarctica at the United Nations General Assembly. Malaysia's concerns centred around

- the exclusivity as well as dominance of the ATCP within the Treaty System;
- the decisionmaking system that lacks accountability, transparency, and democratic practices;
- the need to preserve the fragile environment on the continent at all times;
- the banning of resource exploitation on the continent under the pretext of research; and
- that the United Nations should be more involved in the administration of the continent.<sup>125</sup>

These concerns formed the basis for proposals from Malaysia, including for the 'administration of "uninhabited lands" such as Antarctica by the UN' under an international agreement that would 'ensure the interests of all nations were served',<sup>126</sup> possibly under a model similar to the UNCLOS, which was open for signature at the time. These criticisms and proposals were supported by various members of the Organisation of the Islamic Conference (OIC),<sup>127</sup> the Association of Southeast Asian Nations (ASEAN), and the Non-Aligned Movement.<sup>128</sup> Through the Question of Antarctica, Malaysia became a leading voice against the ATS. Ultimately, however, Malaysia's proposals were not successful, although the UN Security Council considered and debated the country's concerns.

Malaysia's policy towards Antarctica gradually shifted from critique to engagement and cooperation with ATCPs, largely in the period of 1996 to 2004. Malaysia was invited to ATS consultative meetings as a non-acceding observer country in 2002, and an invitation from New Zealand to conduct research at its Scott Base led to the first scientific expeditions by Malaysian scientists in 1999.<sup>129</sup> The Question of Antarctica was removed from the UN General Assembly's active agenda in 2005, by which time Malaysia had indicated its intention to accede to the ATS. Over time, Malaysia's focus has progressively changed

<sup>120</sup> Koshy, 2017.

<sup>121</sup> National Centre for Polar and Ocean Research, Ministry of Earth Sciences, Government of India, 'ORV Sagar Kanya', webpage, undated-b.

<sup>122</sup> Ministry of Earth Sciences, Government of India, 2022a.

<sup>123</sup> Secretariat of the Antarctic Treaty, undated-d.

<sup>124</sup> Tepper and Haward, 2005.

<sup>125</sup> B. A. Hamzah, 'Malaysia and the Southern Ocean: Revisiting the Question of Antarctica', *Ocean Development and International Law*, Vol. 41, No. 2, 2010, p. 187.

<sup>126</sup> Tepper and Haward, 2005, p. 114.

<sup>127</sup> At the time, the OIC was known as the *Organisation of the Islamic Conference*. Its name was changed in 2011, and it is now known as the *Organisation of Islamic Cooperation*.

<sup>128</sup> B. A. Hamzah, 'Malaysia and the 1959 Antarctic Treaty: A Geopolitical Interpretation', *Polar Journal*, Vol. 1, No. 2, 2011.

<sup>129</sup> Rohani Mohd Shah, Zaliha Hj Husin, Nuraisyah Chua Abdullah, and Hamisa Abd Rahman, 'Malaysia Strategies in Sustaining Its Antarctic Endeavours', *Procedia—Social and Behavioral Sciences*, Vol. 202, August 2015.

from the relationship of the ATS and the ATCPs with the UN to environmental protection and concerns over issues including ‘tourism, IUU fishing, bioprospecting, and liability for environmental damage’.<sup>130</sup>

The Malaysian Antarctic Research Programme is coordinated by the Sultan Mizan Antarctic Research Foundation within the Ministry of Environment and Water. Its mission is ‘to promote national and international collaboration in research, and design conservation policies for the polar regions, especially Antarctica’,<sup>131</sup> and its objectives are

- To sustain Malaysia’s presence in polar research and strengthen its research capacities in global frontier sciences
- To initiate and promote scientific research programmes in the Arctic and Antarctic regions and to raise awareness on the role of polar regions in Earth’s ecosystem
- To provide research grants and fellowships encompassing [research and development] activities to Malaysian scientists pursuing post-graduate studies in the polar regions
- To develop Malaysia’s scientific capacity, specifically amongst young scientists, to promote the embedding of Antarctic science in the education system, and to disseminate polar-related scientific information.<sup>132</sup>

The Malaysian Antarctic Research Programme accomplishes these goals through the funding of research grants, facilitation of collaborations between Malaysian universities, and outreach activities to promote Antarctic research.

Malaysia does not possess a permanent base in Antarctica, although plans to investigate the feasibility of building its own research base were announced in 2004.<sup>133</sup> Its expeditions to date have been conducted under bilateral agreements with other countries that have provided scientific and logistical support.

## New Zealand

Because of its strategic geographic location, New Zealand has a long-standing commitment to the stable governance and sustainable management of Antarctica as part of its broader strategic area of interest that includes the southwestern Pacific and Southern oceans.<sup>134</sup> It works with regional, international and multilateral parties

to influence outcomes that align with Aotearoa New Zealand’s values and protect enduring national interests in:

- a rules-based international system that supports Aotearoa New Zealand’s priorities
- a security environment that keeps New Zealanders and Aotearoa New Zealand activities safe
- international conditions and connections that enable New Zealanders to prosper
- global action on sustainability issues that matter to Aotearoa New Zealand.<sup>135</sup>

New Zealand views Antarctica as ‘an essential part of understanding global environmental systems, and is uniquely valuable for scientific research’.<sup>136</sup> New Zealand supports ‘the Antarctic Treaty principles

<sup>130</sup> Tepper and Haward, 2005, p. 121.

<sup>131</sup> Sultan Mizan Antarctic Research Foundation, ‘Mission’, webpage, undated-a.

<sup>132</sup> Sultan Mizan Antarctic Research Foundation, ‘Objectives’, webpage, undated-b.

<sup>133</sup> Tepper and Haward, 2005.

<sup>134</sup> New Zealand Ministry of Foreign Affairs and Trade, *Strategic Intentions 2021-2025*, 2021b, p. 8.

<sup>135</sup> New Zealand Ministry of Foreign Affairs and Trade, 2021b, p. 7.

<sup>136</sup> New Zealand Ministry of Foreign Affairs and Trade, ‘New Zealand’s Statement of Commitment to Antarctica and the Southern Ocean’, 2019, p. 1.

and strives to maintain a peaceful, nuclear free and protected Antarctica'.<sup>137</sup> This objective is manifested through New Zealand's active role in the protection of the Antarctic so that 'the impacts of human activity are limited, and safety is promoted'.<sup>138</sup> The importance of scientific research is visible through New Zealand's most recent decadal plan, *Aotearoa New Zealand Antarctic and Southern Ocean Research Directions and Priorities: 2021–2030*, which seeks 'to advance New Zealand's climate change mitigation and adaptation policies and support New Zealand's leadership within the Antarctic Treaty System'.<sup>139</sup>

Given that much of its territorial claim in Antarctica is maritime-related—specifically, the Ross Dependency and its broader strategic environment (the Ross Sea covers much of New Zealand's claim)—New Zealand is focused on the 'conservation and sustainable management of the marine living resources of the Southern Ocean, . . . [thus] supporting strong environmental standards and sustainable economic benefit'.<sup>140</sup> New Zealand has been a strong advocate for 'the establishment, protection, and management of representative special areas in Antarctica and the Southern Ocean',<sup>141</sup> while also seeking to be 'an international leader in efforts to eliminate IUU fishing in the Southern Ocean'.<sup>142</sup>

New Zealand maintains both a right of sovereignty to (which the government describes as a 'fundamental duty'<sup>143</sup>) and a right to be a 'credible presence'<sup>144</sup> in the Ross Dependency and has a permanent scientific presence at Scott Base.<sup>145</sup> This base accommodates 86 people in summer and about 12 in winter and is focused on scientific research. In its 2021 budget, the New Zealand government committed NZD\$344 million to rebuild Scott Base to accommodate up to 100 people.<sup>146</sup> The base, built in the early 1980s and made up of 11 buildings, is in need of significant repairs and does not meet New Zealand safety regulations.<sup>147</sup>

It is noteworthy that the protection of Southern Ocean resources and support for a permanent presence in Antarctica feature prominently in the most recent New Zealand Defence White Paper, in which the New Zealand Defence Force has an explicit role in supporting New Zealand's civilian presence in the Ross Dependency.<sup>148</sup> This is a recognition by the New Zealand government that maintaining its interests in Antarctica will be challenged by the new strategic environment. The white paper notes that the increasing number of countries with a presence (e.g. bases) in the region is a signal of 'the value that other countries place on having a presence in the region, [and that] while scientific research is a key focus for most countries, the motivations of others may be less clear'.<sup>149</sup> Indeed, some have asserted that 'China's interests and activities in Antarctica appear to breach the terms of the Antarctic Treaty and have the

<sup>137</sup> New Zealand Ministry of Foreign Affairs and Trade, 2019, p. 2.

<sup>138</sup> New Zealand Ministry of Foreign Affairs and Trade, 2019, p. 2.

<sup>139</sup> New Zealand Ministry of Foreign Affairs and Trade, *Aotearoa New Zealand Antarctic and Southern Ocean Research Directions and Priorities: 2021–2030*, 2021a, p. 3.

<sup>140</sup> New Zealand Ministry of Foreign Affairs and Trade, 'New Zealand Statement of Strategic Interest in Antarctica Revised 2002', 2002.

<sup>141</sup> New Zealand Ministry of Foreign Affairs and Trade, 2019, p. 1.

<sup>142</sup> New Zealand Ministry of Foreign Affairs and Trade, 2019, p. 1.

<sup>143</sup> New Zealand Ministry of Defence, *Defence White Paper 2016*, 8 June 2016.

<sup>144</sup> New Zealand Ministry of Foreign Affairs and Trade, 2002, p. 19.

<sup>145</sup> New Zealand Ministry of Defence, 2016, p. 29.

<sup>146</sup> Antarctica New Zealand, 'Successful Budget for Scott Base', webpage, 20 May 2021.

<sup>147</sup> Antarctica New Zealand, *Scott Base Redevelopment—Draft Comprehensive Environmental Evaluation*, 2021.

<sup>148</sup> New Zealand Ministry of Defence, 2016, p. 11.

<sup>149</sup> New Zealand Ministry of Defence, 2016, p. 29.

potential to undermine New Zealand's stated interests there'.<sup>150</sup> That being said, New Zealand works closely with several other countries in Antarctica, including the United States, Italy and South Korea.<sup>151</sup>

Changes in Antarctica's geostrategic landscape has resulted in increased investment in New Zealand Defence Force Antarctic capabilities to 'maintain air, maritime and terrestrial assets capable of operating in Antarctica and the Southern Ocean'.<sup>152</sup> Although it does not possess icebreakers, the New Zealand government is investing in a third ice-strengthened southern offshore patrol vessel for the Royal New Zealand Navy to undertake activities in the environmentally demanding conditions of the Southern Ocean and Ross Sea.<sup>153</sup> This vessel will support New Zealand international search and rescue coordination obligations in the Ross Sea. New Zealand also undertakes maritime aerial surveillance patrols to detect and deter IUU fishing; the offshore patrol vessels support inspections of fisheries at sea.<sup>154</sup>

In summary, New Zealand conceives of Antarctica as 'part of New Zealand's heritage, and future'.<sup>155</sup> As a result, New Zealand has a strong commitment to the existing ATS and the other treaties and conventions that have a bearing upon the ATS.

## Norway

Norway is the only state in the world that governs territory in both polar regions.<sup>156</sup> The northern tip of the Norwegian mainland, the Svalbard archipelago and Jan Mayen are all north of the Arctic Circle, making Norway one of eight recognised Arctic states within the Arctic Council.<sup>157</sup> At the same time, Norway is also claimant to the 2.7 million square kilometres of Queen Maud Land in Antarctica and to Peter I Island.<sup>158</sup> The uninhabited Bouvet Island lies in the sub-Antarctic region but is not part of the ATS.<sup>159</sup>

Norway was one of the first states to officially claim Antarctic land (Norwegian whalers began mapping Antarctica in 1892). Fishing remains one of Norway's key interests in the Antarctic; the Norwegian whaling industry previously dominated the Antarctic oceans from the turn of the 20th century to the 1960s.<sup>160</sup> In 1991, the Norwegian explorer Roald Amundsen became the first explorer to reach the South Pole, and Norway's first claim to Antarctic territory was made in 1939 to protect the whaling industry from other states' competing claims to Antarctica and its surrounding waters, as well as to prevent Nazi Germany from staking a claim.<sup>161</sup>

<sup>150</sup> Anne-Marie Brady, 'China's Expanding Antarctic Interests: Implications for New Zealand', presented at the Small States and the Changing Global Order: New Zealand Faces the Future conference at University of Canterbury, Christchurch, New Zealand, 3–4 June 2017.

<sup>151</sup> New Zealand Ministry of Defence, 2016, p. 38; Patrick Flamm, 'An Unlikely Partnership? New Zealand–South Korea Bilateral Cooperation and Antarctic Order', *Polar Record*, Vol. 57, 18 January 2021.

<sup>152</sup> New Zealand Ministry of Foreign Affairs and Trade, 2019, p. 2.

<sup>153</sup> New Zealand Ministry of Defence, 'Southern Ocean Patrol Vessel', webpage, updated April 2022.

<sup>154</sup> New Zealand Ministry of Defence, 2016, p. 45.

<sup>155</sup> New Zealand Ministry of Foreign Affairs and Trade, 2019, p. 1.

<sup>156</sup> Although other Arctic states—specifically, Russia and the United States—also maintain a presence in Antarctica, they have not made formal legal territorial claims in the way that Norway has. The UK has a claim to the British Antarctic Territory and calls itself the Arctic's 'nearest neighbour' but does not have territory north of the Arctic Circle.

<sup>157</sup> Arctic Council, 'Norway', webpage, undated.

<sup>158</sup> Magnus Hovind Rognhaug, ed., *Norway in the Antarctic*, Norwegian Polar Institute, August 2014, pp. 7–9.

<sup>159</sup> Rognhaug, 2014, p. 10.

<sup>160</sup> Ole Magnus Rapp, 'Norge utvider Dronning Maud Land helt frem til Sydpolen' ['Norway Expands Queen Maud Land to Include the South Pole'], *Aftenposten*, 19 September 2015.

<sup>161</sup> Rognhaug, 2014, pp. 7–8; Harald Dag Jølle, 'Norway's Path to the Antarctic Treaty', Framsenteret, webpage, undated.



Beyond fishing, Norway's interests in the Antarctic region centre around peaceful scientific research and environmental protection.<sup>162</sup> Norway works to promote Norwegian sovereignty over its claimed Antarctic territories and peaceful governance up to and beyond the mandate of the ATS.<sup>163</sup> Following the heightened geopolitical tensions in Europe in the 2010s—notably, Russia's invasion of Crimea—Norway formally annexed the previously ungoverned space between Queen Maud Land and the South Pole in 2015 to signal its increased strategic interest in the polar regions.<sup>164</sup> The same year, the Norwegian Parliament issued a white paper mapping out key strategic interests and policies for Antarctica. Norway's strategic interests in the region are founded on the stability of shared Antarctic governance and the management of heightened Russian and Chinese Antarctic activities.<sup>165</sup> Antarctic operations cost Norway between 30 and 40 million kroner (roughly US\$4 million) per year. However, Norway has pushed for further private-sector investments in Antarctica and has leveraged its commercial fishing, tourism and space industries to increase its profits.<sup>166</sup>

Norway established its first permanent research station, Troll, at Fimbulheimen Mountain, 235 kilometres inland from the ice shelf. In addition, the marine research icebreaker *Kronprins Haakon* has been operational since 2018 and constitutes one of Norway's primary investments in international research collaboration.<sup>167</sup> Furthermore, Norway is party to multiple sub-treaties of the ATS that concern environmental protection.<sup>168</sup> Preserving the unique geology of the Antarctic is a cornerstone of Norway's research efforts in the region, and the country previously chaired the Protocol on Environmental Protection to the Antarctic Treaty negotiations. Norway also maintains its historical role as an advocate for sustainable and highly regulated resource extraction in the region and strongly opposes efforts by actors such as Russia and China to relax the existing regulations.<sup>169</sup>

## Russia

In addition to being an Arctic state, Russia signalled its strong interest in Antarctica in 2020 by dubbing it the 'Year of Antarctica' in honour of the 200th anniversary of the Antarctic continent's discovery by Russian naval officers Fabian Gottlieb von Bellingshausen and Mikhail Lazarev.<sup>170</sup> Russia's physical presence consists of six research stations (four permanent and two seasonal).<sup>171</sup> An additional four Soviet-era stations have been closed, the last one in 1991.<sup>172</sup> Russia has not built a new research station in Antarctica since the last stations were opened in the 1980s.<sup>173</sup> However, the months preceding the Year of Antarc-

<sup>162</sup> Norwegian Ministry of Foreign Affairs, *Meld. St. 32 (2014–2015) Report to the Storting: Norwegian Interests and Policy in the Antarctic*, 12 June 2015.

<sup>163</sup> 'Norge skal forbli en sterk polarnasjon' ['Norway Will Remain a Strong Polar Nation'], iTromsø, updated 1 February 2016.

<sup>164</sup> Jølle, undated; Anita Dey Nuttall and Mark Nuttall, 'The Nordic States and Polar Geopolitics', *Journal of Nordregio*, Vol. 8, No. 3, September 2008.

<sup>165</sup> 'Derfor er Antarktis viktig for Norge—og verden', *E24*, 29 March 2019.

<sup>166</sup> Rapp, 2015.

<sup>167</sup> 'Derfor er Antarktis viktig for Norge—og verden', 2019.

<sup>168</sup> Svein Tore Halvorsen, 'Norge interesse og kunnskapsbehov i Antarktis', briefing slides, Klima—og Miljødepartementet, 7 May 2018; Nora Apelgren and Cassandra M. Brooks, 'Norwegian Interests and Participation Towards the Creation of Marine Protected Areas in the Southern Ocean', *Polar Journal*, Vol. 11, No. 2, 10 December 2021.

<sup>169</sup> Halvorsen, 2018.

<sup>170</sup> Kesenia Idrisova, 'Analysis: What Is Russia Up to in Antarctica?' BBC Monitoring, 28 January 2020.

<sup>171</sup> Russian Antarctic Expedition, 'Russian Antarctic Stations—Overview', webpage, undated.

<sup>172</sup> Russian Antarctic Expedition, undated.

<sup>173</sup> Russian Antarctic Expedition, undated.



tica saw the announcement of numerous projects to modernise and revitalise these stations, including USD\$113 million to reequip Russia's Vostok facility.<sup>174</sup>

The Soviet Union was among the signatories of the AT in 1959, which stated that the Soviet Union—and, by extension, its modern successor state, the Russian Federation—was one of two countries in the world, along with the United States, that maintained a 'basis of claim' at the time of signing.<sup>175</sup> This means that Russia is legally eligible to formulate a territorial claim on the continent; however, it has not done so, nor has the United States.<sup>176</sup> Still, Russian President Vladimir Putin has stressed Russia's historical links with Antarctica, arguing that Antarctica is well known by its Russian geographical names.<sup>177</sup>

Russia has stated that it believes it has been marginalised in the region compared with its Western counterparts, particularly in recent years.<sup>178</sup> It has critiqued the Antarctic Ocean Commission for making decisions that Russia feels to be discriminatory.<sup>179</sup> Russia has, therefore, shown significant signs of seeking to increase its presence in the Antarctic and to become a major player in the region.<sup>180</sup> To this end, in addition to its efforts to revitalise its physical infrastructure, Russia has sent several scientific expeditions to Antarctica, including assessments of fish stocks.<sup>181</sup> Russia also has conducted surveys of underground resources despite the prohibition of any drilling activities on the continent.<sup>182</sup>

Arguably, Russia's renewed interest in the region is based on economic interests, including a desire to pursue exploitation of natural resources in the Antarctic.<sup>183</sup> These resources include oil, natural gas and minerals; Antarctica is known to have significant deposits of gold, coal, iron ore, copper, zinc, nickel, lead and hydrocarbons.<sup>184</sup> Russia also wishes to reinvigorate its fishing activities (including large-scale fishing of krill), which reached their peak prior to the collapse of the Soviet Union; Russia recently announced plans to invest millions of dollars in a krill fishery.<sup>185</sup> Fishing activity is also restricted by the ATS.<sup>186</sup>

Russia and China have worked together on several fronts to achieve mutual goals in the Antarctic continent.<sup>187</sup> Both countries have expressed an interest in relaxing the Madrid Protocol to permit further resource extraction.<sup>188</sup> Similarly, Russia has repeatedly vetoed the establishment of new MPAs at annual meetings of the CCAMLR.<sup>189</sup> Critics allege that Russia has opposed such measures, which sought to

<sup>174</sup> Idrisova, 2020.

<sup>175</sup> Secretariat of the Antarctic Treaty, undated-a.

<sup>176</sup> Secretariat of the Antarctic Treaty, undated-a.

<sup>177</sup> Idrisova, 2020.

<sup>178</sup> Sergey Sukhankin, 'Is Russia Preparing to Challenge the Status Quo in Antarctica? (Part One)', *Eurasia Daily Monitor*, Vol. 17, No. 82, 9 June 2020.

<sup>179</sup> Idrisova, 2020.

<sup>180</sup> Natalia Azarova, 'Competition Among Russia, China and United States Heats Up in Antarctica', Carnegie Endowment for International Peace—Moscow, 7 July 2021.

<sup>181</sup> Idrisova, 2020.

<sup>182</sup> Robert Perkins and Rosemary Griffen, 'Russia Stokes Political Tensions with Hunt for Antarctic Oil', S&P Global Commodity Insights, 21 February 2020.

<sup>183</sup> Paul Goble, 'Moscow's Determined Plans to Upend International Actors in the Antarctic Facing Problems', *Eurasia Daily Monitor*, Vol. 17, No. 165, 19 November 2020.

<sup>184</sup> Azarova, 2021.

<sup>185</sup> Gloria Dickie, 'In Antarctica, Does a Burgeoning Krill Fishery Threaten Wildlife?' Reuters, 24 February 2022.

<sup>186</sup> Dickie, 2022.

<sup>187</sup> Anthony Bergin and Tony Press, *Eyes Wide Open: Managing the Australia-China Antarctic Relationship*, Australian Strategic Policy Institute, April 2020.

<sup>188</sup> Leha Feiger and Mara Wilson, 'The Countries Taking Advantage of Antarctica During the Pandemic', *The Atlantic*, 15 May 2020.

<sup>189</sup> Chelsea Harvey, 'Once Again, New Antarctic Reserves Fail to Win Backing', *Science*, 2 November 2020; Evan T. Bloom, 'Is Antarctic Diplomacy in Peril?' *Polar Points*, a blog of the Polar Institute, Wilson Center, 16 December 2021.

protect wildlife, primarily out of a desire to prevent reduction of permitted fishing areas.<sup>190</sup> Russia and China similarly have cooperated in the field of scientific research, signing a memorandum of cooperation between their research institutions in 2017.<sup>191</sup>

Despite its ambitions, Russia is faced with various challenges that could hamper its Antarctic strategy. Many of its research stations are aging, and the Russian government has not been able to dedicate sufficient levels of resources to renew the stations' capabilities and infrastructure, partly because of economic challenges over the past decades.<sup>192</sup> These challenges will likely only be exacerbated by recent rounds of sanctions stemming from the Russian invasion of Ukraine.

This historic lack of capital investment for day-to-day spending has already disturbed Russia's ability to conduct relevant scientific research in the region and will likely continue to do so.<sup>193</sup> Even when the necessary resources have allegedly been allocated to modernise Russia's equipment and infrastructure on the Antarctic continent, there have been logistics-related challenges; for example, in the aforementioned plans to modernise Vostok, Russian icebreakers with the research station's new modules on board broke down on their way to Antarctica.<sup>194</sup>

## South Africa

South Africa is an original signatory state to the AT and is a full participant in the ATS, having signed the CCAS and the CCAMLR.<sup>195</sup> It is the only African state to be an original signatory member and remains the only African signatory to the ATS.<sup>196</sup>

South Africa's involvement in Antarctica began in 1913, when the Royal Society of South Africa donated £25 to Robert F. Scott for his ultimately ill-fated expedition to the South Pole.<sup>197</sup> Cape Town was also 'used as a staging post' for some 20th century Antarctic expeditions.<sup>198</sup> In the 1950s, South Africa 'undertook meteorological expeditions to the [sub-Antarctic] Edward Islands (Marion and Prince Islands)' before formally annexing them in 1948.<sup>199</sup> It did so following repeated British requests to South Africa to annex the islands to prevent them from falling into Soviet hands.<sup>200</sup> In 1959, South Africa established its first permanent base.<sup>201</sup> South Africa operates one permanent Antarctic base, South African National Antarctic Expedition (SANAE) IV, which includes a runway.

South Africa is a strong proponent of the ATS. The South African National Antarctic Programme emphasises that Antarctica may be used for peaceful purposes only and that the treaty 'emphasizes the important of scientific activities'.<sup>202</sup> The South African National Antarctic Programme highlights the

<sup>190</sup> Dickie, 2022.

<sup>191</sup> Azarova, 2021.

<sup>192</sup> Perry Carter, Anne-Marie Brady, and Evgeny Pavlov, 'Russia's "Smart Power" Foreign Policy and Antarctica', *Polar Journal*, Vol. 6, No. 2, 2016.

<sup>193</sup> Paul Goble, 'Moscow's Problems in Gearing Up for Geopolitical Competition in Antarctic', *Eurasia Daily Monitor*, Vol. 18, No. 9, 19 January 2021.

<sup>194</sup> Goble, 2021.

<sup>195</sup> Secretariat of the Antarctic Treaty, undated-d.

<sup>196</sup> Secretariat of the Antarctic Treaty, undated-d; Adrian Howkins, 'Melting Empires? Climate Change and Politics in Antarctica Since the International Geophysical Year', *Osiris*, Vol. 26, No. 1, 2011, p. 183.

<sup>197</sup> South African National Antarctic Programme, 'About Us', webpage, undated-a.

<sup>198</sup> Antarctic Legacy of South Africa, 'Antarctica Base (SANAE IV)', webpage, undated.

<sup>199</sup> South African National Antarctic Programme, undated-a.

<sup>200</sup> Kerry Bystrom and Joseph R. Slaughter, eds., *The Global South Atlantic*, Fordham University Press, 2017, p. 85.

<sup>201</sup> South African National Antarctic Programme, undated-a.

<sup>202</sup> South African National Antarctic Programme, undated-a.

‘conserv[ation of] this living laboratory’ as its highest importance.<sup>203</sup> It acknowledges, however, ‘the presence of natural resources (both renewable and non-renewable) and the increased interest in their possible utilization (both consumptive and non-consumptive)’.<sup>204</sup> SANAE IV conducts research into wildlife; microbial ecology; marine mammals; the atmosphere; integrating Antarctica and Africa; the arts; space; carbon dioxide emissions; and the history of South Africa’s involvement in Antarctica.<sup>205</sup>

In the early 2000s, tests carried out by South Africa, Finland, Norway and Sweden determined that Cape Town was a suitable departure point for Antarctic expeditions. Since at least 2001, an Ilyushin IL-76 has been used to transport expeditions and materiel between Cape Town and SANAE IV.<sup>206</sup> South Africa also operates an icebreaker, the *S.A. Agulhas II*, to supply SANAE IV and other scientific research stations in the Antarctic. The *S.A. Agulhas II*, built in 2012 and owned by the Department of Environmental Affairs,<sup>207</sup> primarily conducts scientific research when not resupplying SANAE IV.<sup>208</sup> The vessel has been chartered by the Falklands Maritime Trust and the German Aerospace Center for various Antarctic research missions.<sup>209</sup> The South African National Space Agency also collaborates with the South African National Antarctic Programme to conduct scientific research.<sup>210</sup> While South Africa has acknowledged the increased interest of some states to take advantage of Antarctica’s mineral deposits, potentially to the detriment of the environment, it is likely that South Africa will seek to preserve the status quo if the Environmental (Madrid) Protocol is renegotiated in 2048.

## United Kingdom

The UK has a strong historical connection to the Antarctic, dating back to the Royal Navy expedition of Captain James Clark Ross in 1839–1843. Serious UK government interest in the region began in the late 19th century, when the British Empire sponsored further exploration of the Antarctic, including the Discovery Expedition led by British explorers Robert Falcon Scott and Ernest Shackleton.<sup>211</sup>

The UK first claimed sovereignty over parts of the Antarctic in 1908: specifically, South Georgia Island, the Sandwich Islands, the South Shetland Islands, the South Orkney Islands and Graham Land. The UK also claimed sovereignty over Victoria Land and Enderby Land but transferred control of these areas to Australia in 1933.<sup>212</sup> The UK’s British Antarctic Territory Strategy states that the UK’s claim to Antarctica is the oldest legal claim. At the time of claimancy, the uninhabited area claimed by the UK was referred to as a dependency of the Falkland Islands.<sup>213</sup>

The first permanent British presence in the region was established during World War II by the British Admiralty and Colonial Office, with bases at Deception Island and Port Lockroy. These bases were

<sup>203</sup> South African National Antarctic Programme, undated-a.

<sup>204</sup> South African National Antarctic Programme, undated-a.

<sup>205</sup> South African National Antarctic Programme, ‘Research Projects’, webpage, undated-b.

<sup>206</sup> Swedish Polar Research Secretariat, ‘Expedition: Evaluation Flight 2000/01—Evaluation of Air Transportation Between South Africa and Antarctica’, website, undated.

<sup>207</sup> South African Department of Forestry, Fisheries and the Environment, ‘SA Agulhas II’, webpage, undated.

<sup>208</sup> South African National Antarctic Programme, ‘Vessels’, webpage, undated-c.

<sup>209</sup> Falkland Maritime Heritage Trust, ‘S.A. Agulhas II Chartered for Endurance22 Expedition’, press release, 20 September 2021; Earth Observation Center, German Aerospace Center, ‘BLOG: With Agulhas II into “Perennial Ice”: Progress Report Part 1’, undated.

<sup>210</sup> South African National Space Agency, ‘Launching Balloons in Antarctica’, webpage, May 2013.

<sup>211</sup> J. Vitor Tossini, ‘Britain in Antarctica—British Antarctic Territory and the British Antarctic Survey’, *UK Defence Journal*, 3 June 2020.

<sup>212</sup> Tossini, 2020.

<sup>213</sup> British Antarctic Territory, ‘History of the Territory’, webpage, undated-b.

manned by members of the Falkland Islands Dependencies Survey, which conducted scientific research and maintained British presence in the region from 1945 onward.<sup>214</sup>

In 1959, the UK was one of the first 12 countries to sign the AT, agreeing to suspend the country's territorial claims in the region. Following the signature of the treaty, the Falkland Island Dependencies Survey became the British Antarctic Survey (BAS) and maintained its purpose of manning research bases in the area. The territory claimed by the UK was renamed the *British Antarctic Territory* (BAT) in 1962. Argentina and Chile have territorial claims that overlap with the BAT that were formally frozen by the ATS.<sup>215</sup>

The BAT was administered by the Falkland Islands until 1989, after which it was governed by the Commissioner of the British Antarctic Territory.<sup>216</sup> It is administered in London by staff from the Polar Regions Department of the Foreign, Commonwealth and Development Office (FCDO), which also has responsibilities for coordinating UK policy in the Arctic.<sup>217</sup> The BAT is reported to be largely self-funded through income taxes on scientists; stamp and coin sales; and capital interest from the BAT's reserves.<sup>218</sup> The BAT also has its own legal system and governance; according to the British Antarctic Territory Strategy 2019–2029, the main aim of the government of the BAT is to maintain security and good governance in the region.<sup>219</sup>

The UK maintains its presence in the Antarctic through three active BAS scientific stations; a Royal Research Ship, the RRS *Sir David Attenborough*; seasonal visits by a Royal Navy ship, the HMS *Protector*; and the historical base at Port Lockroy, which is managed by the UK Antarctic Heritage Trust.<sup>220</sup> The BAS, which operates in the BAT, is designated as a research centre funded by the Natural Environment Research Council, part of UK Research and Innovation. It has a dual mission: science and presence.<sup>221</sup> BAS also works closely with the Polar Regions Department at the FCDO.<sup>222</sup>

The UK cooperates especially closely with Australia, New Zealand and Norway and also has a cooperation agreement in place with Chile despite its competing territorial claims with the UK.<sup>223</sup> For their part, the UK, New Zealand and Australia have annual bilateral meetings to discuss cooperation, focusing on scientific collaboration and conservation.<sup>224</sup>

The 2021 *Integrated Review of Security, Defence, Development and Foreign Policy* stated that the UK would 'continue to uphold and strengthen the ATS and maintain our leadership in the study of the global implications of climate change in Antarctica'.<sup>225</sup> However, the UK is also committed to maintaining its

<sup>214</sup> British Antarctic Territory, undated-b.

<sup>215</sup> British Antarctic Survey, 'Britain in Antarctica', webpage, undated.

<sup>216</sup> British Antarctic Territory, 'About the Territory', webpage, undated-a.

<sup>217</sup> British Antarctic Territory, 'British Antarctic Territory Strategy 2019–2029', updated August 2021.

<sup>218</sup> British Antarctic Survey, undated.

<sup>219</sup> British Antarctic Territory, 2021.

<sup>220</sup> British Antarctic Territory, undated-a.

<sup>221</sup> Jane Francis, Henry Burgess, and Linda Capper, 'Written Evidence Submitted by the British Antarctic Territory and the British Antarctic Survey', submitted to the UK Parliament, May 2020.

<sup>222</sup> Francis, Burgess, and Capper, 2020.

<sup>223</sup> UK Foreign, Commonwealth and Development Office, 'New Zealand and United Kingdom: Statement on Antarctic Co-operation Priorities to 2020', 20 January 2016; UK Foreign, Commonwealth and Development Office, 'UK-Norway High Level Arrangement on Cooperation on Polar Affairs', 11 March 2021; UK Foreign, Commonwealth and Development Office, 'United Kingdom-Chile Statement on Antarctic Cooperation 2017 to 2022', 27 January 2017.

<sup>224</sup> UK Foreign, Commonwealth and Development Office, 2016; UK Foreign, Commonwealth and Development Office, 'United Kingdom-Australia Antarctic Co-operation Priorities: 2021 to 2026', 25 May 2021.

<sup>225</sup> HM Government, *Global Britain in a Competitive Age: The Integrated Review of Security, Defence, Development and Foreign Policy*, March 2021, p. 64.

territorial claim, the ‘oldest formal territorial claim’ in the Antarctic,<sup>226</sup> and it explicitly stated in the 2021 Defence Command Paper that it was ready to fight for its overseas territory in the Antarctic.<sup>227</sup>

## United States

The United States is an original signatory state to the AT.<sup>228</sup> Unlike the seven signatory states, the United States makes no formal claim to any Antarctic territory. However, like the Russian Federation, the United States ‘maintains a basis to claim territory in Antarctica’ if it so chooses.<sup>229</sup> The United States was a major negotiator in the ATS process. As with other states, the United States conducts inspections of other countries’ stations to ensure that they are compliant with the AT protocols.<sup>230</sup> The United States is a signatory to the CCAS and the CCAMLR.<sup>231</sup> The United States’ primary goals are to ‘encourage international cooperation, maintain an active and influential presence in the region, and continue to conduct high-quality science research, all while sustaining funding efficiency’.<sup>232</sup>

U.S. interests in the Antarctic began in earnest in the years leading up to World War II. In 1928 and 1933, Admiral Richard Byrd undertook two privately funded expeditions to the region. In 1939, the Navy funded the U.S. Antarctic Service Expedition, also led by Byrd, to develop bases at Marguerite Bay and the Bay of Whales.<sup>233</sup>

The United States is a strong proponent of the existing ATS and does not recognise any other signatory state’s territorial claim. Instead, it recognises other signatories’ responsibilities to the AT and expects them to recognise the U.S. position in turn. The U.S. Department of State notifies signatories when an NGO expedition ‘organized in or proceeding from the United States’ occurs. The United States maintains three Antarctic bases: McMurdo Station, on the southern end of Ross Island; Palmer Station, on the Antarctic Peninsula; and Amundsen-Scott South Pole Station, located at the South Pole and hence overlapping all seven signatory claimant states’ claims. McMurdo Station, the United States Antarctic Program’s largest site, maintains a runway capable of receiving large aircraft. The U.S. Air Force supports the U.S. Antarctic Program in a logistical capacity in line with Article I of the AT. The National Science Foundation manages the U.S. Antarctic Program.<sup>234</sup> Two National Science Foundation–operated ships, the *Laurence S. Gould* and the *Nathaniel B. Palmer*, conduct sea-based Antarctic research.<sup>235</sup> The U.S. Coast Guard icebreaker *Polar Star* resupplies McMurdo Station. The United States Antarctic Program and Antarctica New Zealand closely cooperate in the logistics sphere. The United States Antarctic Program provides most of the transportation south for both American and New Zealander researchers. In return, New Zealand hosts the United States Antarctic Program’s large storage facilities in Christchurch.<sup>236</sup>

<sup>226</sup> British Antarctic Territory, undated-b.

<sup>227</sup> UK Ministry of Defence, *Defence in a Competitive Age*, March 2021.

<sup>228</sup> Secretariat of the Antarctic Treaty, undated-d.

<sup>229</sup> U.S. Department of State, ‘Antarctic Region’, webpage, undated-a.

<sup>230</sup> U.S. Department of State, undated-a.

<sup>231</sup> Secretariat of the Antarctic Treaty, undated-d.

<sup>232</sup> United States Antarctic Program, ‘About the Program’, webpage, undated-a.

<sup>233</sup> National Museum of Natural History, ‘Byrd Antarctic Expedition’, webpage, undated; Noel D. Broadbent and Lisle Rose, ‘Historical Archaeology and the Byrd Legacy: The United States Antarctic Service Expedition, 1939-41’, *Virginia Magazine of History and Biography*, Vol. 110, No. 2, 2002, p. 237.

<sup>234</sup> United States Antarctic Program, ‘About USAP Participants’, webpage, undated-b.

<sup>235</sup> United States Antarctic Program, ‘Vessel Science and Operation’, webpage, undated-d.

<sup>236</sup> O’Reilly, 2017, p. 55.



Unlike many signatory and consulting states, the United States maintains a formal Antarctic strategy, *More and Better Science in Antarctica Through Increased Logistical Effectiveness*, last published in July 2012.<sup>237</sup> The policy prioritises maintaining the Antarctic exclusively for scientific research and improving logistical support to realise the goals laid out in the ATS.<sup>238</sup> The policy also recognises the critical role Antarctica plays in global climate change. Notably, the strategy highlights the IceCube Neutrino Observatory, ‘a cubic-kilometer array of 5160 optical sensors [that have] been emplaced deep in the 9,000-foot (2,745-meter) thick ice sheet near the South Pole’.<sup>239</sup> The observatory’s purpose is to identify and better understand neutrinos and dark matter in the universe. The National Science Foundation manages scientific research and associated logistics in Antarctica and aboard ships in the surrounding oceans.<sup>240</sup> The U.S. Antarctic Program also publishes and maintains a set of compliance procedures to uphold the CCAS and the CCAMLR.<sup>241</sup> The National Science Foundation ‘requires every scientist proposing research in Antarctica to analyze the environmental impact of the proposed project’ before a permit will be issued to conduct scientific research.<sup>242</sup> The U.S. Antarctic Program is undertaking a program to reduce its fossil fuel use. By 2012, it had become evident to the U.S. Antarctic Program that its three bases possessed ‘aging infrastructure’.<sup>243</sup> The program is undertaking master renovations of its McMurdo and Palmer bases, funding permitting.<sup>244</sup> Amundsen-Scott South Pole Station was renovated in 2008.<sup>245</sup>

Some American observers have echoed their Australian and British counterparts in voicing concerns that China and Russia are expanding their goals in Antarctica to potentially include mining and dual-use infrastructure. In particular, China has been identified as seeking to develop a formal claim through its growing number of scientific research stations.<sup>246</sup> At the time of writing, China is constructing its fifth research station. U.S. observers are especially concerned that China will seek to renegotiate the Environmental (Madrid) Protocol in 2048 to fish Antarctic krill and take advantage of the continent’s rich mineral deposits, petroleum and natural gas.<sup>247</sup> Possible Russian and Chinese competition leading up to any potential 2048 renegotiations aside, it is expected that U.S. officials will seek to maintain the ATS status quo because it provides the United States with the ability to conduct scientific research anywhere on the continent.

<sup>237</sup> U.S. Antarctic Program Blue Ribbon Panel, *More and Better Science in Antarctica Through Increased Logistical Effectiveness*, July 2012.

<sup>238</sup> U.S. Antarctic Program Blue Ribbon Panel, 2012, p. 4.

<sup>239</sup> U.S. Antarctic Program Blue Ribbon Panel, 2012, p. 4.

<sup>240</sup> National Science Foundation, ‘U.S. Antarctic Program’, fact sheet, 10 January, 2013.

<sup>241</sup> United States Antarctic Program, ‘Conservation and Environment Procedures’, webpage, undated-c.

<sup>242</sup> United States Antarctic Program, undated-c.

<sup>243</sup> U.S. Antarctic Program Blue Ribbon Panel, 2012, p. 7.

<sup>244</sup> United States Antarctic Program, *McMurdo Station Master Plan 2.1*, 16 December 2015, p. 13; United States Antarctic Program, *Palmer Station Master Plan 1.0*, 8 January 2016, p. 12.

<sup>245</sup> National Science Foundation, 2013.

<sup>246</sup> Feiger and Wilson, 2020.

<sup>247</sup> Azarova, 2021.

## Tabletop Exercise

The aim of the TTX was to create an environment to explore uncertainty between different—and often conflicting—national objectives in the Antarctic. It was intended that the friction caused by conflicting national objectives could lead to unanticipated events and actions by stakeholders. As a result, we intended for the TTX to draw out hidden or novel responses to these external stimuli.

We used a scenario-based approach: Players representing 13 states responded to two projected (2035) future environments.<sup>1</sup> The TTX was designed to elicit strategies that states might take when managing multiple Antarctic-related tensions and friction points. Although the game was driven by the national responses, the aim was not to provide a detailed portrait of how each party might conduct itself; rather, it was to portend and enrich understanding of dynamics, issues and manouevrings that might inform the Antarctic geostrategic landscape in the coming decades.

The gameplay itself was also important. Through the TTX, we sought to expand players' thinking on Antarctic issues, to raise more questions about the future of Antarctica, and to identify gaps and points of exploitation for the ATS. Therefore, we saw the TTX as a tool to develop high-level insights, actions and friction points that could provide a basis for more-detailed studies.

## Gameplay

The TTX was developed and undertaken through a multiphase, scenario-based approach over a two-month period and involved players distributed across eight locations on three continents. The TTX was executed through the following steps:

1. The exercise was devised around players presenting a specific country's position within the milieu of all nations concurrently responding to a particular scenario. In all, 13 countries were represented.<sup>2</sup> Each participant was assigned a given state and provided with an initial game briefing and background materials, including information on the ATS,<sup>3</sup> a two-page document outlining the national position of the country they were representing,<sup>4</sup> and a short scenario. Three broad points of friction were used to help build the scenarios.
  - a. The first point was that the terms *science* and *peaceful purposes*, which are fundamental to the integrity of the ATS, might be interpreted in novel ways by both claimants and non-claimants as Antarctica becomes embedded in a technologically mediated environment. This environment might result in new activities and actors, and it might be particularly difficult to navigate in the context of dual-use and autonomous technologies.

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<sup>1</sup> Although we deemed South Africa an interesting example for analysis for this study, we were not able to find a player with the appropriate expertise or interest to participate in the TTX. We decided to retain the national profile for South Africa for the extra detail it provided for setting the scene of the TTX.

<sup>2</sup> This included all countries listed in Chapter 3 except for South Africa.

<sup>3</sup> This information is presented in Chapter 2 of this report.

<sup>4</sup> Each country's national position is presented in Chapter 3 of this report.



- b. The second point was that enforcement responsibilities are largely addressed by participant nations' domestic legislation, but there is a tension between exercising legislative jurisdiction and upholding the ATS. If a claimant's law is not enforced within the claimant's territory, a claim could be questioned. However, enforcement on a territorial basis might undermine good relations and influence in the ATS.
- c. The final point was that there are significant ambiguities in Antarctic governance caused by misalignment of the ATS with other international agreements. For example, there is ambiguity as to the status of coastal states' claims to rights over the extended continental shelf, which some claimants consider to legitimately extend from their Antarctic territories. Recognition of these rights might be considered enlargement of existing claims, which is not allowed under the AT.

These points of friction informed a diverse set of vignettes, each of which would be happening concurrently. The point was to make the players manage conflicting challenges as they sought to determine their actions. Each player created a written narrative response to the Game 1 scenario (reproduced in the following section), prompted by a set of questions; responses were developed independently from those of other players. To encourage players to think outside the status quo, they were to assume that, fundamentally, international frameworks such as the ATS were to be considered by each state in terms of its national security and national interest. While acknowledging the desire for continued collaboration, players were not to assume that political leadership in each country was fixed about the nature and extent of acceptable cooperation. Broadly, although the benefits (even imperatives) of working cooperatively support global security and prosperity, players were to be flexible when it came to what *degree*, to what specific *ends*, and at what *cost*.

- 2. Players were then presented with a summary of the positions developed by all players in response to the scenario and were provided with time to reposition and take different actions (or not) based on review of other states' positions.
- 3. Players were then presented with the Game 2 scenario (also reproduced in the following section). Each player created a written response to, or set of actions for, that scenario, independent of those developed by other players.
- 4. We concluded the TTX with a workshop in which we provided an overview of all elements of the gameplay and responses and allowed players to reflect, discuss and provide insights on the implications of the project for understanding the future of the Antarctic.

## Game 1: Bend

Participants were asked to review the scenario, reproduced below, and develop a national response in isolation from other players. This scenario allowed for challenges to the status quo within the confines of the existing international system. These behaviours might be positive or negative in terms of effect on the longevity and strength of the ATS, but they are also behaviours that are largely accepted.

### Scenario

It is the early 2030s. The Antarctic has become a hotbed of geostrategic interactions with an array of nations that are actively pursuing strategic objectives: Some nations are directly focused on the ATS, while others are using the Antarctic as a proxy for other geostrategic goals. Many overlapping lines of action are being pursued concurrently, aligning with the diverse interests of these nations. We have developed six, non-exhaustive vignettes that, together, create a feasible scenario that could occur in the 2030s leading up to the renegotiation of some elements of the ATS. We are assuming that climate change will make Antarctica more accessible and exploitable.

#### Russia and China Have Established a Joint Plan to Exploit the Resources of Antarctica

Russia and China, along with allied nations, have stated their position that the ATS is outdated, unrepresentative and unworkable. Building on a recently agreed cooperative pact, both countries have developed

and adjusted their polar strategies to reflect this position, particularly in terms of their intent to oppose hegemony by Western powers. This aligns with their broader strategy of cooperative activities in ungoverned spaces, such as the development of a joint lunar base. Through mutual recognition of each other's claims, Russia and China seek changes to territorial claims founded on an active presence. As a result, there has been an increase in the number of Russian and Chinese Antarctic bases and other bases from their allies and partners.

However, while China has taken more of a mercantilist view, selecting base sites and undertaking geological research to position itself for future resource exploitation, Russia has taken a position of using Antarctic claims as a demonstration of global relevance and as a counterweight to the United States and its allies. This has led to increasing tension between Russia and China as to what resources countries can claim, how countries can claim these resources, and the types of governance mechanisms that are required for a 21st century ATS.

### A Period of Transactional Leadership in the United States Has Ushered In a More Activist and Market-Driven Approach to Antarctica

The President stressed that he did not want the U.S. simply to have pieces of the Antarctic pie. If we were ever to make claims in the area, we had better claim it all. . . . The President repeated his view that the U.S. ought to assert a right to go anywhere it damned pleased in Antarctica and that the U.S. should at the same time refuse to recognize the claims of any other nation to any part of Antarctica.<sup>5</sup>

During the development of the AT, its 'essential altruism' was its guiding principle: It was seen to be 'almost entirely a self-denying ordinance on the part of the signatories, who will derive from it virtually no privileges but only obligations'.<sup>6</sup> However, such imperatives are increasingly seen as antiquated in some quarters when it comes to the ATS. One of the drivers for change is the U.S. government, which has taken a more transactional view of international relationships. Public chiding by senior U.S. government officials of allies and partners to contribute more to security arrangements has often been simplified to a need to demonstrate financial benefit. As a result, it is expected that all international strategic policy requires a clear demonstration of value for money.

This expectation has become part of the U.S. government's dialogue with respect to the Antarctic and if, where, and how the United States should invest its resources. American officials acknowledge that the lack of a recognised territorial claim has become a shortcoming, in part because of concerns that other major powers who possess territorial claims could be seen to gain an advantage. Therefore, U.S. willingness to support the ATS appears to be weakening unless there is a capacity to reorient the ATS towards careful exploitation.

### There Is Evidence That the Definition of *Scientific Research* Is Being Stretched and Challenged

The aspiration of the ATS is for the Antarctic to be used for 'peaceful purposes' with a particular emphasis on promoting global scientific exchange. As the first arms control document of the Cold War, the ATS has proven to be successful in these endeavours. However, there is evidence emerging that some countries are seeking to reinterpret *scientific research* to include activities that might be seen as (or a precursor to) increased resource exploitation in and around the Antarctic. These parties tend to cite Japanese whaling in the Southern Pacific Ocean as a precedent. Some parties are calling into question the arbitrary boundary (the area south of 60° south latitude), suggesting that this line should be moved further south or be defined by an EEZ, as is the case elsewhere. However, although Australia, Chile and Argentina claim

<sup>5</sup> Office of the Historian, U.S. Department of State, 'Memorandum of Discussion at the 401st Meeting of the National Security Council, Washington, April 2, 1959', in Suzanne E. Coffman and Charles S. Sampson, eds., *Foreign Relations of the United States, 1958–1960, United Nations and General International Matters, Volume II*, Government Printing Office, 1991, p. 550.

<sup>6</sup> Hayton, 1960, p. 356.

EEZs or similar rights for 200 nautical miles in the waters off their respective claimed territories, these zones are not accepted by other countries.

It is also becoming evident that some actors are undertaking activities that contravene the spirit of the ATS and perhaps even breach it. For instance, many states and private companies are undertaking geological surveys but are not sharing results with ATS signatory and consultative states. It is unclear whether these activities are correlating with situating new bases. However, some parts of the Antarctic are seeing an influx of bases with no apparent sound scientific basis. Dual-use technologies, such as satellite telecommunications systems following the creation of an Antarctic low-earth-orbiting satellite constellation, are becoming common. For instance, Australia has developed and deployed a variety of robotic and autonomous systems in the Antarctic, stating that their use is for both scientific and security purposes.

#### Friction Between Argentina, Chile and the United Kingdom over Competing Claims Is Rising

From its establishment, the AT has failed to resolve overlapping territorial claims between Argentina, Chile and the UK. Each state has attempted to get a favourable resolution through various international institutions but with little success; these nations are being selective on what territories they acknowledge as legitimate and how they interpret the outcomes. These nations are also courting public opinion at home and with like-minded allies. Recently, Argentina and Chile have developed an agreed position on overlapping claims that freezes out the UK. Some other nations are supporting this position, although it has been suggested that this support is linked to gaining favourable access to Chile's extensive lithium deposits (approximately 40 per cent of global reserves).<sup>7</sup>

Mount Pleasant, the British military base on the Falkland Islands, remains a sticking point and is being used in this dispute to draw others in. Argentina and Chile are refusing to let any UK-owned or flagged vessels (including cruise ships) and aircraft use, or overfly, their territory. This ban extends to other vessels that are docking at UK bases in these contested zones. There are claims of sabotage and failure to render timely assistance in some cases when accidents have occurred both in bases and in the seas around the Antarctic, in breach of international norms.

#### Indonesia Has Gained ASEAN and Non-Aligned Nations' Approval for Its Push That the United Nations Take Over Responsibility for the Antarctic

The ATS was developed outside the UN system by a select cadre of nations in the 1950s. Although 56 parties signed the agreement, only 29 Consultative Parties are empowered with decisionmaking privileges. Other parties seeking what they desire through a more equitable approach feel that the Consultative Parties are using the ATS to stymie other countries' involvement. Examples include exploiting the requirement that all Consultative Parties must approve a measure through consensus for it to be accepted and inconsistently applying the 'conducting substantial research' measure, which is seen as a means for greater influence.

Malaysia had previously proposed that governance of the ATS fall under the UN. In the 1980s, Malaysia formed a constituency of non-aligned nations to support such a change. However, the Consultative Parties, given their vested interest in the status quo, blocked this effort. Indonesia has now taken up this position and, supported by Malaysia, is becoming the leading voice for such a change, bringing in a substantial number of states from the Global South in support. Several NGOs have also expressed their support, stating that if the Antarctic is a global commons, then it should be administered by the UN, with all states having a voice.

#### A Maverick Entrepreneur Wants to Claim Some Territory on Behalf of the People of Earth and Use It to Mitigate Climate Change

Human history has many examples of the exploration and initial appropriation of new territories by private individuals or companies with no (or only a loose) affiliation with a national government (e.g. the conquistadors, the Dutch and British East India companies, the Pilgrims). Furthermore, in the 2010s and

<sup>7</sup> U.S. Geological Survey, *Mineral Commodity Summaries 2022*, 31 January 2022, p. 101.

2020s, the commercialisation of space and interstellar travel increasingly became the purvey of private individuals or companies. Such a trend has become possible in the Antarctic, with new technologies and a more hospitable climate. Using Liechtenstein as a ‘flag of convenience’, private individuals and their companies have taken advantage of the moral imperative to reverse the global climate emergency to suggest that people outside government are better placed to do what is best for the human corpus. The first step has been to establish their own, privately funded base. Their stated intent is to support scientific research that can help the planet overcome the effects of climate change. They are testing and deploying solar and wind farms that power new high-capacity batteries as a case for future environmentally friendly energy production. With the backing of some influential NGOs, these private individuals are using global social media coverage to claim a moral high ground, claiming that the old ways of international competition are detrimental to humankind and the planet’s well-being.

### Questionnaire

To ensure consistency, participants were provided with a questionnaire and asked to respond to the following questions:

- From your nation’s perspective, what are the three to five key issues or risks that arise from the scenario? Why do they matter to your country and its position in terms of the ATS? How would you propose responding to these? What objectives or ends would you be seeking? What actions or activities would you seek to undertake to achieve these? If possible, characterise these in terms of high-level statements:
  - Presence or posture—will it be necessary to increase, decrease or modify your presence and/or adapt your posture in the Antarctic?
  - Exploitation—how might you seek to exploit the situation to your advantage (either alone or in partnership) in a manner that supports your objectives?
  - Enforcement or response—what actions or activities (investments) would you seek to or need to take?
    - Given your proposed response, what high-level ‘signals’ would you seek to send out (include timing, approach and target audience if possible)?
    - Would you send different ‘signals’ to other states (e.g. allies versus potential adversaries)? If so, summarise in terms of the other players.

### Updated Response

Upon receiving the responses, we reviewed the information provided by each participant, summarised it, and provided it back to the participants, along with copies of all other national responses, to allow them to reflect upon and update their responses and adjust where they deemed necessary. We asked for responses to the following questions:

- Having seen the objectives or actions being proposed by other states, how would you modify your national response (if at all)? How would your response affect the existing status quo of the Antarctic? What about if it were not successful? If possible, discuss in terms of
  - the ATS and its governance arrangements
  - national perspective and the perspectives on your sovereignty—includes intent and capacity
  - the international system and if or how these actions might be perceived.

### Game 2: Break

The gameplay for the *break* scenario followed a similar format to that for the *bend* scenario. However, the intent of the break scenario was to challenge assumptions, pushing behaviours beyond those that are currently accepted to understand national red lines. But this scenario is also, as a follow-on from

the bend scenario, an illustration of where repeated erosion of normative facts and legal bases might lead. In the break scenario, we tried to push players to think beyond existing parameters, conventions and assumptions.

### Scenario

The growing space race to Mars has seen several interested parties focusing on establishing support infrastructure in the Antarctic. It is believed that those who can win this race will be well positioned to dominate geostrategic relationships for the foreseeable future.

The focus on the Antarctic is a recognition that the vastness of the land mass, its remoteness and the climatic conditions make it an ideal (or, as some suggest, the only) place on Earth where it is feasible to do critical testing and human acclimatisation before commencing Mars travel. Concerned ATS nations are being assured that these activities are occurring in remote areas away from research stations and animal colonies.

The presence of astronauts (including Russian cosmonauts and Chinese taikonauts) is being called out as militarisation of the Antarctic because these individuals are often members of the militaries in their respective countries. Although some states are claiming that these individuals are not formal military personnel, many consider them to be so. Concerns over spying and sabotage are increasing. The security and secrecy around these programs require protective measures, including various forms of weaponry and non-access to sites, in contravention of the established norms.

The discovery of titanium reserves in the Antarctic is seen as an important find: Access to titanium is critical for the aerospace industry. Russia and China currently sit on significant domestic titanium reserves and appear disinclined to give up that monopoly. Other states, however, have expressed concerns about future market access to titanium; some are seeking a justification to control and potentially exploit those reserves in Antarctica.

Meanwhile, a radicalised splinter group from Greenpeace has become increasingly militant and proactive, undertaking terrorist activities against those nations it believes are despoiling the Antarctic. These activities have included attacks on land and on the high seas, specifically targeting national and commercial assets of entities that support the Antarctic space programs. Intelligence indicates that members of this group have infiltrated some of the programs being established in the Antarctic with the view to sabotage.

The move to build public-private partnerships in space travel has seen nonstate (commercial) groups propose establishing initial footprints in Antarctica to support U.S. and Japanese programs. This is hotly contested by other nations: some of these nations because they are using only state employees and others because they do not want to justify any commercial interests in Antarctica.

International bodies (such as ASEAN) are pressuring those Antarctic nations with space-related direct or commercial interests to come out strongly against the proposals coming from commercial groups to kickstart the U.S. and Japanese space programs. These international bodies are also seeking to develop a sanctions regime, although the form it will take is not clear, and they are pressuring the UN to take responsibility for all of these actions.

### Questionnaire

The original questionnaire was adjusted to reflect the changed nature of the break scenario and consisted of the following questions:

- From your state's perspective, in what ways does this scenario threaten or strengthen your strategic objectives for the ATS? How might this shift your strategic outlook?
- What are your proposed response options and actions? Please characterise as
  - aspirational end state (presence or posture)
  - exploitation of the opportunities
  - countering of the threats.

- Broadly speaking (outside of your national position), how might this shape a new international governance instrument for the Antarctic?

At the culmination of the TTX, a participants' workshop was held to discuss and derive feedback on the gameplay of the TTX and to identify signals of importance, draw lessons from the strategies adopted by participants and discuss new means for strengthening the ATS.

## Outcomes from Each Game

A summary of key themes and tensions emerging from player responses to the scenarios for Game 1 (the *bend* game) and Game 2 (the *break* game) is captured below.

### Game 1: Bend

In Game 1, the scenario challenged the status quo within the confines of the existing international system and norms. Against this context, the ATS was seen as the preferable instrument for Antarctic governance, but there was broad recognition that the ATS was increasingly not fit for this purpose. However, opinion was divided on whether to adjust the existing instruments or to pursue more-fundamental reform.

- Argentina posited negotiations on a new ATS that redefines its area of application to incorporate the boundaries of the 200-nautical mile EEZ around Antártida Antarctica and sought to dissuade UK allies from supporting the UK's Antarctic claim during ATS negotiations.
- Brazil reaffirmed that the region must be used exclusively for peaceful, scientific, nonacquisitive and nonexploitative purposes and saw an opportunity to collaborate with like-minded states with consultative status to strengthen the ATS.
- Chile prioritised opposition to Russian and Chinese attempts to dominate the continent for fear of increased undermining of the ATS.
- China sought to cultivate an image as a responsible power among ATS signatories, with an enhanced 'right to speak' or 'discourse power' for future Antarctic negotiations.
- France sought to maintain the ATS, block efforts to exploit natural resources and push for the creation of MPAs and increased monitoring of new activities in the Antarctic to ensure that there are no 'non-peaceful' activities.
- India sought to maintain what it has achieved under the ATS. Although it sees the ATS as sufficiently flexible to remain useful, it regards the system as in need of evolution.
- Malaysia asserted that the ATS should be cancelled and replaced by an appropriate authority that better represents the global community.
- New Zealand saw stable governance based on the spirit of the ATS and related conventions as a key issue but recognised the need to evolve a new instrument.
- Norway sought to maintain the status quo with a preference that any potential new treaty system in the Antarctic should be like the existing ATS.
- Russia saw the Antarctic as an area of geostrategic competition: As natural resources become more exploitable with climate change, Russia intends to reap the economic and strategic benefits of their exploitation regardless of the ATS.
- The UK emphasised broad continuity with the previous iteration of the ATS, with minor adaptations to reflect changing realities on the ground, such as the effects of increased access, communications and technology.
- The United States maintained faith in the original tenets of the ATS, seeing the system as both representative and workable.



There was a strong sense that many were eager to participate in shaping the ATS going forward as part of a more inclusive system. And, although there was broad opinion that the UN was not a better alternative for Antarctic governance, some countries were considering how UN involvement might be exploited to their benefit.

- Brazil sought to undermine the Malaysian-Indonesian UN proposal.
- Australia sought to explore possibilities with Indonesia on support for a model of UN governance, contingent on that model refusing any new claims but allowing historic claims to be held in stasis and reactivated if the UN system proves untenable.
- China sought to exploit Indonesia's efforts to have the UN take over responsibility for the Antarctic. China might consider this proposal and take advantage of its growing influence in the UN to enforce a more equitable approach to the Antarctic.
- If the traditionally non-aligned states re-prosecuted proposals for the UN to take over governance over the Antarctic region, India would want to see governance of Antarctica reformed but would reject the proposal for a UN-based regime, instead taking the opportunity to make a case for a reformed ATS or similar instrument.
- Malaysia would lobby the UN to step in and agree that the Antarctic is a global commons, administered by the UN.
- Norway sought to maintain the status quo and, therefore, opposed any UN involvement.
- Russia saw UN oversight as an impediment to exploitation of natural resources in the region.
- The United States would work to ensure that the ATS remains distinct from the UN and that the UN only stays involved with the IMO's Polar Code and UNCLOS.

There were tensions over 'who owns what' and over efforts to control parts of the Antarctic to inhibit the movement of others.

- The UK would continue to monitor the threat from Argentina and communicate a desire for continuing positive relations, but it maintained a resolute determination that the Falkland Islands remain a UK overseas territory.
- For Chile, there was concern about the security of its southernmost reaches and its ability to move goods freely to and from the Atlantic Ocean, seeing that both of these could be impinged upon if Russia or China were able to dominate the Drake Passage.
- Brazil, although supportive of Argentina's position regarding the Islas Malvinas (Falkland Islands), had long been quietly pleased by rivalry between Argentina and Chile. Brazil's overwhelming dominance of the Southern Cone is favoured by disagreements between the other two large nations.
- Although it remains unlikely that the United States would invoke its right to claimancy, there is potential for Russia to make claims over parts of or the whole of Marie Byrd Land—the largest unclaimed region on earth—to explore potential mineral and/or krill deposits.

Environmental concerns and climate change were not an obvious priority for many countries, perhaps reflecting a move from the altruistic nature of the ATS at its establishment. Indeed, we were struck that there was not a single mention of the penguins. Where we did see mention of environmental issues, it tended to be tied to other strategic ends, especially in the context of potential resource exploitation. In some cases, those who wished to counter resource exploitation were driven by their own self-interest (e.g. domestic reserves).

- Australia sought to commence a public relations effort to engage the public on Australia's Antarctic Territory, with a stated government preference to preserve the Antarctic for nature and science but also to work against those who would seek to exploit Australia's claimed territory in the region.
- France would block efforts to exploit natural resources and would push for the creation of MPAs and increased monitoring of new activities in the Antarctic to ensure that there are no 'non-



peaceful' activities. France would elevate the Antarctica issue in French public discourse, highlighting France's historical role in scientific exploration on the continent, leading role in garnering international consensus on countering environmental degradation and climate change (e.g. the Paris Accords), and commitment to the rule of law and global institutions.

- India, attempting to bolster its position as a global power, adopted the role of moral leader, couching its international rhetoric on activities in the Antarctic in environmental terms and continuing to champion scientific integrity and India's scientific prowess.
- New Zealand, aiming to strengthen the maintenance of norms around the peaceful and sustainable scientific use of Antarctica, advocated for UN oversight and encouraged other regional players to take the same position. It focused on the need to address illegal fishing and climate change, which are major issues for both Australia and New Zealand's other Pacific partners.
- As natural resources (oil, gas, minerals, fishing) have become more exploitable with climate change, Russia intends to reap the economic and strategic benefits of their exploitation, regardless of the ATS.
- The UK would use Antarctica as a basis for deepening its perceived leadership and influence in relation to climate change, including through increased investment in climate science and niche science and technology relevant to operations in cold weather.

We found that, across the breadth of the responses, there was an inclination towards *realpolitik* and an assumption that states would use the Antarctic to prosecute other strategic ends. Most countries were relatively open to exploitation of the ATS and the Antarctic continent, although it was unclear whether anyone was willing to move first.

### Updated Response

In this round, we found that most players did not change their country's position in any substantive way. However, some players refined their actions and focused on like-minded countries to collaborate and partner with to further mutual interests. Some players added actions that followed the lead of others or scaled their responses up or down, either to respond to or to match the actions of another country.

- There was obvious opposition from most countries to any suggestion of UN governance of Antarctica; the preference was either maintaining the existing ATS or making minor modifications to the system. Those players who continued to support UN governance supported distributing decision-making more equally beyond the major stakeholders.
- Some commonly mentioned tensions that could arise in the future included
  - Russia or China's exploitation of Antarctica
  - efforts to isolate a country from others or from Antarctic affairs
  - ongoing sovereignty issues and overlapping claims
  - proposals for a UN governance model or governance arrangements and terms that do not align with a country's strategic interests.
- There was also heightened concern that attempts by such states as China and Russia to deliberately violate and dissolve the structure of Antarctic governance, along with increased attempts to supplant the ATS with a UN-led order, would lead to elevated tensions in the Antarctic. The view was that powers from outside the Southern Hemisphere would begin to assert illegitimate claims to dominate the Antarctic, destroy its fragile environment, jeopardise transits through the Drake Passage and menace the southernmost reaches of the Chilean mainland.

Although there were not any significant shifts in position for the updated response round, across the breadth of responses, we found intensification of the sentiment that the ATS was becoming unworkable and clear concern that Antarctica was at risk of being carved up like Africa during the late 19th century,

split among rival powers jealously guarding their own interests and threatening everything from the Drake Passage to the maritime environment.

## Game 2: Break

When players were exposed to the break scenario, which sought to challenge some of the assumptions of the existing international system, the general view among the countries continued to be that, in principle, the ATS should be upheld, but there was broad recognition that the binding spirit of the treaty system might have been irrevocably broken. Significantly, the governance void potentially created by any further distortion of the ATS did not translate to increased support for a UN-governed global commons. Potential dissolution of the ATS did, however, produce an openness among several states to new coalitions and alignments.

- For the United States, the preferred course would be maintenance of the ATS as the preeminent governing system for Antarctica because the ATS permits the active participation and say of states with substantive Antarctic research activities. In furtherance of this objective, the United States was firmly against dispensing this system to the UN, which would open Antarctic governance to states with little to no experience in Antarctic affairs or research.
- Australia resisted a UN model because of concerns about vote-buying. If the situation continued to deteriorate, Australia would explore with like-minded countries the possibility of a joint governance model for collective control of Antarctica or at least the portion containing Australia's territory and areas controlled or claimed by Australia's partners.
- Russia saw the increased pressure from international bodies such as ASEAN for UN oversight as a liability for Russia's agenda in the Antarctic.
- For India, while it recognised that a UN-led instrument might have the potential to promote shared governance by multiple sovereign powers without dividing the area into national zones, any such instrument (regardless of which auspice it operates under) would likely be dominated by the interests of invested great-power states, particularly China and the United States.
- For Brazil, if there are enough violations, the ATS would be shattered, and the UN would likely assume a role as an oversight body of last resort, perhaps with a dedicated UN organisation focused on the Antarctic. Achieving consensus within the UN on behavioural constraints in the Antarctic would be very difficult, and violations of any such constraints would likely be frequent.
- Malaysia determined that the ATS had become powerless and decided that its most beneficial course would be to covertly align with China. Malaysia would act as a spy on the ground for China while publicly supporting ASEAN nations in calling out any poor behaviour in the region and supporting a sanctions regime to be employed by the UN.
- France suggested that it might need to look beyond Australia to create a coalition of like-minded countries to prevent militarisation of the Antarctic, overexploitation of natural resources and marginalisation of France in the region from occurring. It could build on its previous rapprochement with the UK and the United States on these issues and could leverage its role at the UN, especially if others are pushing for the UN to take a stand.

We saw an obvious tension between states that viewed the commencement of astronaut training and titanium mining as a precedent for a 'race to the bottom' in terms of exploitative, polluting and militaristic behaviours and states that saw these activities as signifying advancements in scientific research with broad-based benefit.

- Russia would continue to pursue resource exploration and exploitation and securitisation of infrastructure and seek collaboration with China on space exploration. If criticised by Western powers, Russia would emphasise the hypocrisy of preventing Russian exploration of opportunities while letting private actors explore these opportunities. Russia would also use its natural reserves of tita-

nium to pressure any actor willing to play a role in the space race into having a lenient attitude towards Russia in the Antarctic.

- Norway took the view that if the astronauts are peacefully training for their Mars missions, the activities supported the ‘for all mankind’ aspect of the ATS because exploring Mars would have a future benefit for all. However, if the trainings are a cover for nefarious or ATS-violating activities, those activities must be identified and documented (including through intelligence activities), and overt and covert countermoves must be pursued.
- France saw the race to Mars as a potential prompt for it to devote more financial resources to Antarctica and to elevate polar issues more generally on its strategic agenda.
- Because China views outer space as a domain for future competition and the polar regions as the ‘strategic commanding heights’,<sup>8</sup> it would build support infrastructure in the region and might wish to cooperate with other regional stakeholders, such as Russia. China is likely to send scientists and members of its military to support these efforts. China might also initiate scientific research opportunities, either on its own or in cooperation with other regional stakeholders, that would allow it to exploit the titanium reserves in Antarctica.
- India would call for universal disarmament of the Antarctic and a switch to a collaborative space program operating under a multilateral arrangement. India would exert greater pressure on its fellow states through partnerships with neighbouring smaller states, particularly in Southeast Asia, to tax, slow or prevent military or otherwise armed vessels from transiting crucial shipping lanes in the region, drastically increasing the maintenance and sustainment costs and challenges for states that continue to act antagonistically in the Antarctic.
- For Argentina, the introduction of specialised weaponry and denial of access to sites (which might be quite large to support space training and testing) was highly concerning. Argentina supported the requirement for full transparency of all activities on the continent and, to the extent that these space-based activities must remain secret and off-limits, would push back against them.
- For Brazil, both astronaut training (if it has a militaristic guise) and titanium mining could fatally undermine the ATS. Once the precedent has been established that Antarctica is a place to be exploited, not explored, it will be ravaged like high-seas fisheries, militarised like low earth orbit and polluted with detritus like both.
- The United States continued to push for the protection of Antarctic flora and fauna as defined by the ATS and the use of the continent for scientific purposes only, condemning mineral exploitation of any kind. It also acknowledged Antarctica’s geographic location as an ideal Mars training ground for astronauts and would continue to train them there in accordance with ATS protocols, with the expectation that other countries would do the same.

We saw continued concerns over ‘who owns what’ and over attempts to control parts of the Antarctic to inhibit the movement of others. In some cases, we saw this turn into openness to more-explicit assertions of sovereignty.

- Australia stated its readiness to use its geographic position to restrict access of entities in contravention of the spirit of international agreements governing Antarctica. To do so, it might take such measures as refusing to allow entities to use Australian ports and airports to stage into Antarctica and engaging in harassment, intelligence gathering and public shaming.
- Argentina expressed concern about security on the ground and suggested that it might shift its strategic outlook, particularly on the Falkland Islands dispute with the UK. If that could not be resolved, Argentina would shift course, from attempting to reclaim the territory towards increasing security to protect and preserve existing bases and in the surrounding Southern Ocean.

<sup>8</sup> China Aerospace Studies Institute, 2022, p. 163.

- Chile, Argentina and other Southern Hemisphere nations could work together to deny access to Antarctic-bound ships and aircraft from nations that are conducting titanium mining or other resource exploitation. Working together in this way might not preclude such mining, but it would make it more expensive and challenging. Chile also asserted that any country wanting to use Chilean or Argentine territory to land planes or dock ships bound to or from the Antarctic must adhere to a multinational approach that minimises militarisation.
- The United States expressed concerns that China had constructed additional bases in a wedge-shaped area populated by Chinese bases within the AAT and was concerned that China might be preparing to make a formal territorial claim over that area without the approval of the ATS Secretariat.

We saw general condemnation of the actions of the Greenpeace splinter group but few tangible or on-the-ground responses.

- Norway had the view that bona fide Mars mission preparations should be protected from eco-terrorists and that nefarious activities should be handled by the signatories of the ATS rather than by rogue NGOs. Intelligence and response capabilities would have to be directed at terrorists, but it must be clear that it is strictly a civilian law enforcement effort rather than militarisation. Norway also saw intelligence gathering on the terrorists as excellent cover for surveillance of nefarious activities by other governments.
- Russia saw the activities of Greenpeace as a potential threat to Russian infrastructure and fleets operating in Antarctica.
- Chinese officials would be very critical of any terrorist activities that aim to harm Chinese commercial assets that support China's Antarctic space program. China could use this issue as a reason to send either Chinese troops or private security companies to Antarctica to protect Chinese nationals and assets.
- Argentina would be concerned that the Greenpeace ecoterrorists might be nondiscriminatory in their activities and might begin to target its long-standing bases in the same way as the newer space facilities.
- The United States designated the Greenpeace splinter group a terrorist organisation. In so doing, it has moved to freeze the group members' assets and is collaborating with allies and partners to similarly freeze members' assets. In addition, the Federal Bureau of Investigation is cooperating with Interpol to identify, track and arrest members of the Greenpeace splinter group for terrorist activities. The United States is concerned by reports that some members might be collaborating with the People's Liberation Army Astronaut Corps to sabotage other states' respective Mars training programs.

Finally, although there was openness to an adjusted ATS, the new agreement would have to include significant reforms, and there was scepticism as to whether it would be effective.

- Australia was of the view that the ATS should not be changed lightly and that international management of Antarctica should continue in the spirit of preserving a part of the world as wilderness for the common heritage of all. Australia also recognised that, in its existing form, the ATS privileges some countries over others, and it was ready to consider an ATS where member countries have equal voting rights but where the central provisions and intent of the treaty are unchanged.
- China saw that by 2040, its scientific research initiatives, infrastructure investments and diplomatic leverage would have matured to the point that it would be a major stakeholder in the region and would have a right to speak in regional affairs. China saw that the ATS might need to be updated to meet existing challenges in international security, including clear guidelines to address space research activities that might support military objectives. These space research activities also dem-

onstrate a need for the ATS to better address the effects that such research activities can have on Antarctica's climate conditions.

- Norway supported the continuation of the ATS indefinitely and adherence to both the letter and the spirit of the ATS and urged the peaceful use of Antarctica in support of space exploration and the neutralisation of ecoterrorism.
- For France, a new ATS with updates on space-related infrastructure might be possible if resource extraction had not advanced beyond the point of discussion. However, this new ATS would likely be opposed by countries eager to exploit titanium reserves and, if extraction had been initiated, would gain no traction at all. Under those circumstances, France would advocate for a UN body similar to the International Seabed Authority, which was established by UNCLOS and includes all state parties to UNCLOS (while at the same time remaining cognisant that there must be means to include the United States if it had still not ratified UNCLOS).
- Malaysia determined that norms had broken down to the extent that the ATS had become powerless. Malaysia asserted that blatant manipulation of the ATS and the opportunities it offers with respect to research had allowed Antarctica to become a testing ground for how far limits can be stretched in an area with relatively lean governance mechanisms to ascertain not only what Antarctica can be pillaged for but what can be attempted in other ungoverned or under-governed domains.
- India deemed that direct intervention was required to ensure sufficient influence over a reformed ATS. India determined that it would leverage its global position to attract smaller states away from supporting Chinese, Russian, U.S. and Japanese exclusive claims to Antarctic territory by disarming its presence in the Antarctic and opening its scientific bases to visitors and international inspectors. It would then be able to publicly claim the moral high ground, allowing it to castigate states that are pursuing exclusionary programs.
- Argentina was pushed closer to favouring a successor ATS that maintains the status quo, even if doing so means abandoning ambitions of infusing the ATS with provisions that enhance Argentina's geostrategic position. For example, rather than attempt to redraw the area governed by the ATS to include its EEZ, Argentina might be satisfied with a successor treaty that simply minimises the security threat posed by new actors.
- For Brazil, the ATS was effective not only because it has the standing of a treaty but because it has established norms to which nations want to adhere. Nations recognise the collective benefits of not having a race to the bottom in terms of exploitative, polluting and militaristic behaviours. Any reformed ATS, then, would be less imposing in terms of its ability to constrain behaviour and might not be able to gain any traction.
- For the United States, a reformed ATS would need to address at least two broad issues: (1) what constitutes scientific research and (2) resource exploitation. Scientific research includes space research, but it must be conducted by civilians or military personnel in an open, transparent manner. A reformed ATS would need to decide whether limited mineral resource mining can occur, and the treaty's language would need to be strengthened to close loopholes and clarify the ATS's relationship with UN-related laws. The reformed ATS would also need to address emerging interests of private companies, ranging from tourism to space exploration, and it would require *teeth* (i.e. the real weight) to be effective, which might include a sanctions regime and suspension from voting rights within the ATS general meetings.





## What Does It All Mean?

One of the drivers of this research was the significant and continued uncertainty on the importance of Antarctica and its surrounding waters in geostrategic terms. We have tried to expose and explore some of this uncertainty by providing empirically driven projections of future dynamics in the Antarctic to enrich and expand our understanding of and provide a stronger basis for policy and decisionmaking for the region. At the outset, we posed the following three questions as important for understanding geostrategic manoeuvring and competition in the Antarctic in the coming decades, particularly in assessing the influence of modern strategic dynamics on the longevity and resilience of the ATS:

- How might growing strategic competition manifest in the lead-up to any potential review of elements of the ATS?
- What might this mean for the broader treaty system, particularly as it pertains to sovereignty and ungoverned spaces?
- How might these trends in the Antarctic affect great-power competition globally?

To explore answers to these questions, we developed a portrait of the Antarctic as a potential point of geostrategic tension by conducting a review of the history of the ATS, highlighting existing challenges with governance, and setting the stage for possible friction points between nations. We explored who the interested parties are, why they are interested parties and what their existing positions are, as reflected in their policies and activities. We used this analysis as the basis for a scenario-based, multiphase TTX wherein we sought to challenge, test and stretch thinking around these positions to both explore and expand the potential geostrategic friction points. We workshopped the findings of the TTX to identify some implications for the future geostrategic importance of the Antarctic.

An important part of this research was the creation of a repository of the positions and strategies of several countries invested in Antarctic issues and, perhaps even more valuable, the evaluation of those positions against each other and against a series of future scenarios. As a result, we have generated a rich set of materials for developing future research and for building a stronger basis for prefiguring key areas of concern for the future of the Antarctic, beyond this research effort. Moreover, through the TTX, we were provided with a means to challenge some of the more contentious and ambiguous matters associated with the Antarctic and to enrich understanding of the contours of the ATS. Indeed, because the TTX played out over several months, it provided the space for these ideas to be developed, changed or refined in a dynamic, yet limited, context. This process expanded the thinking of the players, provided an important and novel means to understand how and why these dynamics occur, and identified rub points that might cause maximal friction in the coming years.

In the following paragraphs, we summarise what this research has told us about growing competition in the region and the implications for the ATS and what these results might mean for competition globally.

### Growing Strategic Competition in Antarctica

Because a review of some elements of the ATS—specifically, the Environmental (Madrid) Protocol—might be on the horizon in 2048, the future of the continent is likely to be decided in the intervening

years by strategic-minded parties seeking to exploit susceptibilities in the decidedly lean mechanisms of the ATS. Therefore, strategic interests in and around Antarctica will continue to be influenced by broader global competition.

But there are also conditions in the Antarctic that make the manifestations and dynamics of this competition unique and that require a different reading of the role of national interests, interstate dynamics, global norms and international arrangements. For many states, there is significant ambiguity, abstractness and remoteness shaping conceptualisations of the Antarctic region, which consequently inform the contours of Antarctica in the geostrategic imagination and in national statecraft. For example, Antarctica has no permanent or native population and cannot support even the basic needs of a population. Thus, sovereignty is not conceived of in human-centric or existential terms. As a result, some of the traditional elements that create conflict are not present, and there might not be the same sense of immediacy as in other parts of the world. This might mean that disputes manifest in a different way than in other geostrategic theatres. This reduced sense of immediacy does not, however, indicate or result in lesser severity or significance. Indeed, it might result in the acceptance of potentially more-profound and deeply damaging conduct. Moreover, there is a risk that Antarctica becomes a political ‘plaything’ or a proxy for addressing tensions elsewhere. The unconventional means by which it is governed, the overlapping claims to territories and the abstractness with which Antarctica is conceived of are likely to increase tensions, potentially between erstwhile allies. The ramifications of this are, at this stage, largely beyond our planning.

In this research, we have identified and played out through our TTX some tensions that could shape the Antarctic in international affairs in such a way that we can look to future policy implications at the domestic, international and alliance levels. We found that ambiguity in such international arrangements as the ATS, particularly those that were developed for another age (e.g. analogue as opposed to digital, Cold War as opposed to multipolar), will likely be exploited in favour of narrow national interests. States will seek to capitalise on what is increasingly perceived as a weak and unconventional governance mechanism, even more so as the lines for legitimate conduct are blurring. Extended or contested definitions of *scientific*, *research* and *peaceful* purposes and increased use of dual-use technologies on the ground might increasingly be used as cover for realising a benefit or an end, as is the case in the Arctic and the South China Sea. Emerging technologies, particularly automated systems, create new ways in which entities can interact and operate. The ATS will need to be adjusted to accommodate this reality. Moreover, the lack of enforceability in the ATS has shown the limitations of countries seeking to exploit loopholes. Under these circumstances, grey zone tactics to test stated red lines might become common practice.

Our TTX exposed the moral impetus of environmental conservation and the historical designation of Antarctica as the common heritage of mankind to be willingly superseded by uncompromising *raison d'état*. We found that a united front became untenable when actors actively bent international rules and norms to suit their ends. Once one entity positions itself to exploit a circumstance before it is locked, other entities might choose to rapidly respond for fear of missing out. We found that the Antarctic now and into the future envisioned in the TTX is disposed to transactional dynamics. Countries such as the United States might welcome a market-driven approach in accordance with existing treaties, and other countries might find that this is also in their interests, especially because it might drive research and raise the profile of Antarctica because commercial research will likely proliferate. Therefore, if Antarctic governance relies on the goodwill of mankind and the longevity of an internationally minded international community for its security, this type of governance might be at risk.

Territorial claims will likely continue to cause tensions, particularly where there is overlap or contention, as is the case with the claims of the UK, Chile and Argentina. Argentina and the UK might seek to assert their sovereignty over their respective overlapping claims more forcefully in the lead-up to the renegotiated ATS. Both countries have a tradition of asserting their sovereignty and arguing that these spaces are indeed governed. These tensions have the potential to develop into something much greater.

However, there are some physical characteristics of Antarctica that naturally inhibit the extent to which human activities of any sort can occur there, at least for now. Extreme conditions and geographi-

cal remoteness mean that behaviours are limited and expensive, which can affect the level of engagement that occurs on the ground. Although strategic interests grow in the region, there is an inherent slowness to any kind of activity that can occur in Antarctica. As a result, states are less likely to be surprised by activities or posturing, so the risk of an accidental confrontation occurring and sparking a wider conflict is much lower. This reality might help keep tempers cool, prevent rapid escalation and provide time for diplomatic solutions.

These much longer lead times also reduce perceived timelines for decisionmaking, however. Because of the remoteness of Antarctica, states might become entrenched in their positions and find it difficult to respond quickly to changing circumstances. This could increase the risk of misinterpretation of actions and result in impulsive responses because of the recognition that a countering presence cannot be established quickly. Information might be instant, but any delay in responding might mean that it is too late. Counterintuitively, some states might be compelled to act preemptively to avoid this kind of strategic surprise.

We might also see that growth in strategic and economic alliances of (immediate) advantage, combined with a lack of confidence, might open new forms of cooperation that seek to circumvent the ATS when this cooperation is perceived to be beneficial. However, the proliferation of non-claimant parties interested in the Antarctic, largely for self-interested reasons, such as equitable access, and concerns over how controlling parts of the Antarctic might inhibit the movement of others in the future (e.g. shipping through the Drake Passage) will inevitably create more-challenging dynamics.

## What These Results Mean for the Antarctic Treaty System

The lines for legitimate conduct in Antarctica are blurring, and both claimant and non-claimant states are taking advantage of this situation, which, in turn, causes further distortion of the ATS. The provisions of the AT reflect the 1950s context in which they were written. However, since that time, the strategic climate has shifted so markedly that the treaty and associated instruments no longer reflect the primary concerns of many interested parties. Under these circumstances, actors will be more inclined to push on what they perceive as weak points in the ATS.

The worst-case scenario—which this research has shown is within the capacities of our current comprehension—is that perceived weakness in the ATS's governance and enforcement mechanisms will result in a race to the bottom in terms of exploitative, environmentally damaging and militaristic behaviours. Once an interested party takes a course of action that challenges significant elements of the ATS, other parties might sense that dissolution is inevitable and pursue a similar course to ensure that they are not excluded from accessing the same benefits. This fundamentally destabilises the ATS: Countries are more willing to prioritise national interests over the global good, at high cost to, and possibly even the dissolution of, the ATS.

These courses could take multiple forms, but our research has highlighted several areas with a high propensity for exploitation. The growth of dual-use technologies—i.e. those technologies that can be used for both peaceful and military aims—opens a Pandora's box, whereby exploitation of the Antarctic becomes inevitable and the decline of the ATS becomes irreversible, particularly if a country decides that it needs to protect itself. Moreover, dual-use technologies might expand the definitional contours of the terms *scientific*, *research* and *peaceful* purposes. These terms constitute and reflect the fundamentally altruistic underpinnings of the AT and the broader ATS, and, therefore, their exploitation could mean the effective dissolution of the binding spirit of Antarctic governance as we know it.

Our TTX revealed heightened concern over such activities as mineral exploitation, particularly by countries such as Russia and China. However, once one country violates the Madrid Protocol, the floodgates for similar activity could open, especially because there are no means to enforce the Madrid Protocol in real terms. Therefore, if the moratorium on mining and drilling is ignored, and mineral exploita-

tion becomes inevitable, a compromise to maintain the ATS that is acceptable to all parties would likely be a push for mineral exploitation to be closely monitored by international observers.

Antarctica is a nonconventionally administered area, and its governing instruments are remarkably slender in their provisions. This lean approach to Antarctic governance was once a strength, but the growth in the number of bases and countries with bases creates significant and ongoing challenges in knowing what activities are occurring and whether they are legitimate. Indeed, many activities, and the technologies that allow them to be pursued, could not have been foreseen by the ATS's creators. Problems with ensuring adherence to the ATS will increase if there is no enforceable mechanism for countering such activities. There might be an increased need to conduct surveillance of the continent, especially because the inspection regime associated with the ATS has proven largely inadequate. For example, the United States and its allies (especially the Five Eyes) might need to keep a close eye on activities, particularly those of China and Russia, whether through surreptitious monitoring (e.g. submarines, satellites) or through ATS inspections.

Indeed, if there is increased propensity for interested actors to flout terms and conventions, the survival of the ATS would seem to require stronger, enforceable and agreed-upon penalties for breaking norms or provisions, something that might be challenging for a mechanism that operates separately from truly global fora, especially the UN. A more dynamic, comprehensive set of governance laws might be needed to replace the often-vague text of the original AT. Moreover, there is likely to be notable appetite for reforming and strengthening the ATS in this way. The ATS requires increased specificity, should set clear restrictions on the types of activities that participant countries may perform and should absorb the other environmental treaties that collectively inform the ATS. The ATS should have a greater mandate for inspections and should have the ability to suspend members from council meetings or from voting if inspections are blocked or if failures are found, and there should be stronger checks and balances at the secretariat level.

In short, the ATS lacks the *teeth* to be successful in its activities. Improving this situation likely will involve developing strong, credible enforcement mechanisms and perhaps establishing an independent ombudsman that is responsible for overseeing Antarctic activities and has representatives from all continents, not just countries that are permanent participants in the ATS. This could alleviate concerns of countries that are not currently involved in the ATS but that might wish to become involved. To formalise these equities, there might ultimately be a push for governance of the Antarctic to be overseen by the UN under a framework that empowers more nations and that distributes decisionmaking more equitably beyond the major stakeholders.

Recognition of these points of vulnerability is an important step in reinforcing a strong governance regime as invested parties recognise a greater need to incorporate more resilience into the contours of the ATS or a successor agreement. Indeed, if a new or fundamentally reformed instrument is developed, it might be provident for delegates involved in renegotiation of the ATS to also be aware of any maturation of outer space or electromagnetic spectrum treaties. It is likely that by the time the ATS renegotiations begin, those concepts and laws will be more established and might entail novel or creative elements that might translate effectively to the Antarctic.

## Implications for Competition Globally

Over the coming decades, dynamics in the Antarctic are likely to have tangible implications for competition globally and will continue to reflect and influence great-power competition elsewhere in the world. For example, the suspension of Russia from the Arctic Council in response to its invasion of Ukraine in February 2022 demonstrates that the polar regions, once considered (like outer space) relatively immune

from international politics, are sensitive to externalities. Indeed, if we are seeing broader geostrategic challenges interfere with successful Arctic governance, the Antarctic could follow suit.<sup>1</sup>

With the new space race gaining momentum, Antarctica might also be seen as a feasible location for developing space-related infrastructure and for conducting critical testing for space travel. For example, China views outer space as a domain for future competition and the polar regions as the ‘strategic commanding heights’.<sup>2</sup> Therefore, it is not a stretch to imagine that China might not only build infrastructure in Antarctica but also send scientists and members of its military to support the efforts. Once one country starts using Antarctica for these purposes, others involved in the space race will follow.

Antarctica might very well become a sphere congested with activities serving to entrench states into *raison d’état* and might act as a harbinger of what is to come for other ungoverned or under-governed spaces. For countries with growing equities in other ungoverned or under-governed spaces, such as outer space, any disadvantageous precedents set in relation to Antarctica (in terms of either norms of behaviour or more-formal changes to legal treaties) might have cascading implications for how governance mechanisms develop in other areas.

Our analysis suggests that the altruism that underpinned the ATS is unlikely to survive; contemporary interests in the Antarctic are driven by, whatever the rhetoric, realist priorities. As a result, we are likely to see Antarctica increasingly drawn into the broader strategic plays of non-claimant powers. China, for example, has self-identified as a ‘near Arctic state’ since 2013,<sup>3</sup> signalling its ambition to be a major player in Arctic affairs. Although China is unlikely to declare itself a ‘near Antarctic state’, it might well deploy the same strategic intent it uses in the Arctic towards the Antarctic’s surrounding waters.<sup>4</sup> In tangible terms, this means that it could construct Antarctic icebreakers, build more research stations and increase tourism traffic. Russia, too, might seek to reinforce its Antarctic stations even as it declines generally as a great power. This includes renewed investments in such Soviet-era stations as Vostok. In the face of rising Chinese presence, the United States and its allies will need to expand their Antarctic presence to contain what they perceive as Chinese expansionism.

Among claimant states, we might see increased efforts to reinforce sovereign integrity in anticipation of either a further weakening of the ATS or its dissolution. For example, France, in control of the slim Adélie Land territory, might seek to preserve the status quo as it focuses on retaining major power status in the Indo-Pacific. The UK will continue to protect its South Atlantic interests, supporting its Mount Pleasant military facilities and demonstrating that the Antarctic is part of its ‘Global Britain’ initiative begun during Brexit in 2016–2020.<sup>5</sup> Australia will likely seek to hold onto its historical claim to 42 per cent of the Antarctic continent. Although response options are limited under the existing ATS, some actors might use their geographic positions to restrict access for some entities, in contravention of the spirit of international agreements governing Antarctica.

Commercial interests in Antarctica are likely to increase, as is the presence of NGOs. This might be symptomatic of a potentially increasingly anarchic system that will benefit some countries but disadvantage others. It might also be the catalyst for growing global competition among interested parties over resources found in the region, for which there is no scope for management under the ATS.

Finally, the lack of inhabitants in Antarctica might weaken the justification for the rule of law and accepted international conventions in relation to Antarctica. If this occurs, to the extent that there is

<sup>1</sup> Benjamin J. Sacks, Marigold Black, and Peter Dortmans, ‘Arctic Governance Is in Trouble. The Antarctic Could Be Next’, *RealClearWorld*, 6 December 2022.

<sup>2</sup> China Aerospace Studies Institute, Air University, 2022, p. 163.

<sup>3</sup> Benjamin J. Sacks, Scott R. Stephenson, Stephanie Pezard, Abbie Tingstad, and Camilla T. N. Sørensen, *Exploring Gaps in Arctic Governance: Identifying Potential Sources of Conflict and Mitigating Measures*, RAND Corporation, RR-A1007-1, 2021, p. 2.

<sup>4</sup> For an argument on conquest of the continent, see David Robinson, *Poles Apart: Russia’s Activities to Advance Polar Sovereignty Claims*, dissertation, Air War College, Air University, 27 March 2020.

<sup>5</sup> HM Government, 2021, p. 64.



significant dissolution of governance mechanisms and international norms in this region—and insufficient human presence on the ground to bound damaging conduct and harmful behaviours—what will enter the governance void? Antarctica tends to defy the traditional concepts, frameworks and legalities that shape the contemporary international order and the political units therein. Although we are still searching for the most-effective means for navigating Antarctica’s unusual parameters and dynamics, this report will help enrich understanding of and help inform appropriate policy and decisionmaking for the region.

## Key Findings

Our report explores what the implications for the ATS might be when the strategic interests of various countries are in conflict. In a general sense, our findings did not significantly diverge from the expected. The geostrategic manoeuvrings of the various countries were very often an extrapolation of the existing national positions. Where our findings did diverge from the expected, they were in matters that could not be readily established through pure analytics and are significant when considering how the ATS might be reinforced or made more resilient. Despite the altruistic origins and spirit of the ATS, we found that participants representing the various countries were readily given to move in their own self-interest once someone else moved. Participants quickly moved to strategies that were driven primarily by the extraction of national benefit, even if there was a continued effort to avoid being seen as responsible for going against the original intent of the treaty. We also found that the motivations of many of the non-signatories, such as China, Russia and India, were very clearly and unambiguously for these countries to manage the ATS to get what they deemed as their fair share from the Antarctic region.

Our research suggests that hard-headed realism is both plausible and likely to stress the ATS as countries position themselves relative to one another in the coming decades and in the lead-up to the potential ATS renegotiations. Clearly, if all parties take a more altruistic approach, in line with the original intent of the ATS, then it is unlikely that significant change will occur. But we contend that the former scenario is more likely because of both the significant political, technological, environmental, economic and social changes that have occurred over recent decades and the manner in which strategic competition is being played out in similar spaces (e.g. the Arctic, outer space, the South China Sea, Ukraine). Therefore, we conclude that interested parties need to consider the following when planning for their future engagement with the Antarctic continent:

- The territorial distribution of the Antarctic region might be unsustainable because it is reflective of the power dynamics of the post-World War II era. The premise underpinning the ATS will be called into question if the territorial distribution is actively challenged by other claimants.
- States are very likely to exploit resources, both on land and in the seas around the Antarctic, to undermine the ATS.
- The Antarctic has several characteristics that are not typically present for land-based conflict, which makes it more difficult to understand how and why conflict could occur: It is resource-rich but supply-poor, it is extremely remote, its natural environment is severe and inhospitable, and it has no permanent population.
- In seeking to position themselves advantageously ahead of the potential ATS renegotiations, interested parties might wish to establish claims that they do not intend to exploit immediately. Rather, their actions might reflect a hedging strategy to ensure future access for themselves when such exploitation activities become economically viable.
- Without an agreed-upon and effective enforcement mechanism, the ATS will be rendered redundant if and when some interested parties seek to challenge it to further their own interests. There appears to be consensus that the ATS should be preserved as a space of good governance and that it should be amended or reinforced as follows:



- Focus on preserving the Antarctic as a global commons.
- Strengthen existing language to close loopholes.
- Give member states equal say.
- Address what constitutes *scientific research* and *peaceful purposes*.
- Address resource exploitation.
- Address relationships with UN-related laws.
- Address interests of private companies (e.g. tourism, space exploration).
- Address the role of modern technology.<sup>6</sup>
- Incorporate enforcement and compliance mechanisms that might include a sanctions regime and suspension from voting rights within the ATS general meetings.

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<sup>6</sup> Mathieu Boulègue, *Russia and China in Antarctica and the Southern Ocean: Implications for the Five Eyes*, Sea Power Centre, Royal Australian Navy, 2022.



# Abbreviations

AAT	Australian Antarctic Territory
ASEAN	Association of Southeast Asian Nations
AT	Antarctic Treaty
ATCM	Antarctic Treaty Consultative Meeting
ATCP	Antarctic Treaty Consultative Party
ATS	Antarctic Treaty System
BAS	British Antarctic Survey
BAT	British Antarctic Territory
CCAMLR	Convention on the Conservation of Antarctic Marine Living Resources
CCAS	Convention for the Preservation of Antarctic Seals
CCP	Chinese Communist Party
CEP	Committee on Environmental Protection
CIRM	Interministerial Commission for Maritime Resources
CONANTAR	National Commission for Antarctic Affairs
CONAPA	National Committee on Antarctic Research
CRAMRA	Convention on the Regulation of Antarctic Mineral Resource Activities
EEZ	exclusive economic zone
FCDO	Foreign, Commonwealth, and Development Office
ICG	Intersessional Contact Group
ICJ	International Court of Justice
IGY	International Geophysical Year
IMO	International Maritime Organisation
IPEV	Institut polaire français Paul-Émile Victor
IUU	illegal, unreported and unregulated
MPA	marine protected area
NCPOR	National Centre for Polar and Ocean Research
NGO	nongovernmental organisation
OIC	Organisation of the Islamic Conference
PROANTAR	Brazilian Antarctic Program
SANAE	South African National Antarctic Expedition
SATCM	Special Antarctic Treaty Consultative Meeting
SCAR	Scientific Committee on Antarctic Research
TAAF	Terres australes et antarctiques françaises
TTX	tabletop exercise
UK	United Kingdom
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
U.S.	United States



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*Unless otherwise indicated, the authors of this report provided the translations of bibliographic details for the non-English sources included in this report. To support conventions for alphabetising, sources in Chinese are introduced with and organised according to their English translations. The original rendering in Chinese appears in brackets after the English translation.*

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**T**he Antarctic is becoming a zone of contested governance. Leveraging open-source literature and a tabletop exercise (TTX), the authors examine the possible implications that geostrategic manoeuvring and competition in the Antarctic in the coming decades might have on the longevity and resilience of the Antarctic Treaty System (ATS), a governance regime that seems increasingly ill-fitted to modern strategic dynamics.

The authors develop a portrait of the Antarctic as a potential point of geostrategic tension by conducting a review of the history of the ATS, highlighting existing challenges with governance, and setting the stage for possible friction points between nations. The authors explore the interested parties, the nature of their interests and their existing positions as reflected in their policies and activities. This analysis was used to design and develop a TTX that challenged, tested and stretched thinking and identified potential geostrategic friction points for the Antarctic.

The authors provide empirically driven projections of future dynamics to expose uncertainty, expand understanding and provide a stronger basis for policy and decisionmaking for the region.