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STUDY

*Chile and the Southern Hemisphere:  
Antarctica in Transition?*



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## EXECUTIVE SUMMARY

- Antarctica is currently governed by the Antarctic Treaty System (ATS), which has been effective since 1961 and comprises the Antarctic Treaty (signed in 1959) and a series of related agreements. In total, there are 12 signatories to the ATS and 54 parties to it.
- Of the ATS' signatories, seven – Argentina, Australia, Chile, France, New Zealand, Norway, and the United Kingdom (UK) – have made claims on Antarctic territory. Other signatories – particularly, the United States (US) and Russia – have reserved the right to make future claims.
- In recent years, these “established” Antarctic powers have been joined by an additional group of increasingly active countries, including South Korea, Turkey, and India. Chief amongst these is China.
- A signatory to the Antarctic Treaty, China has dramatically amplified its activities in the Southern Hemisphere, including Antarctica, as its economic and political power has grown over recent decades. Speaking in 2014, Xi Jinping declared that one of China's foreign policy goals was to join the ranks of the “Polar Great Powers” (*Jidi Qiangguo*), itself a component of its broader strategic agenda to become the world's leading power by the middle of the twenty-first century.
- Despite the coherence of the ATS, the two prevailing “megatrends” of the present era – accelerating climate change and growing geopolitical competition between the major powers – appear likely to affect Antarctica and the broader Southern Hemisphere.
- To this end, the report constructs four scenarios for Antarctica through to 2050. These scenarios were developed through a series of interviews and workshops with academics, policy-makers, and other experts, and provide a dynamic view on the continent's future depending on how the two “megatrends” develop.
- The scenarios are:
  - **“Glaciation”**, in which climate change continues at the rate of current projections (a mean temperature increase of around 1.5°C) and global competition continues at the current level;
  - **“Skirmish”**, in which climate change continues at the rate of current projections but global competition increases from 2020 levels and this has an impact on Antarctica;
  - **“Gaia”**, in which climate change increases beyond the rate of current projections (a mean temperature increase of around 2°C) but the major powers “ring fence” Antarctica from competition from elsewhere; and
  - **“Inferno”**, in which climate change increases beyond the rate of current projections (a mean temperature increase of around 2°C) and global competition increases substantially from the 2020 level, with severe consequences for the broader Southern Hemisphere.

- As Chile attempts to reposition itself as a regional power facing into the Indo-Pacific in the twenty-first century, it is clear that its posture toward Antarctica and its goals there are in greater harmony with those of Australia, New Zealand, and the UK, than with others. It is also important that Chile does not inadvertently empower any countries that may – in the longer term – be antithetical to the country’s Antarctic position and interests, as well as those of its allies and partners.



## ABOUT THE AUTHORS

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All errors and omissions remain, of course, our own.

## LIST OF ACRONYMS

ASMA	Antarctic Specially Managed Area
ATCM	Antarctic Treaty Consultative Meetings
ATCP	Antarctic Treaty Consultative Parties
ATS	Antarctic Treaty System
AAD	Australian Antarctic Division
BAS	British Antarctic Survey
BRI	Belt and Road Initiative
CCAMLR	Convention on the Conservation of Antarctic Marine Living Resources
CMNAP	Council of Managers of National Antarctic Programmes
CCP	Chinese Communist Party
CEP	Committee for Environmental Protection
EAIS	East Antarctic Ice Sheet
IAATO	International Association of Antarctic Tour Operators
IGY	International Geophysical Year
IMO	International Maritime Organization
INACH	Chilean Antarctic Institute
IPEV	Polar Institute Paul-Emile Victor
MPA	Marine Protected Areas
NERC	Natural Environment Research Council
NGOs	Non-Governmental Organisations
PLA	People's Liberation Army
PROANTAR	Brazilian Antarctic Programme
SCAR	Scientific Committee on Antarctic Research
SCO	Shanghai Cooperation Organisation
UNCLOS	United Nations Convention on the Law of the Sea
UK	United Kingdom
US	United States
USAP	United States Antarctic Program
WAIS	West Antarctic Ice Sheet

A stylized world map in shades of blue and green, centered on the Atlantic Ocean. The map is surrounded by a light blue background. A solid red vertical bar is positioned on the left side, and another solid red vertical bar is positioned on the right side. The word "INTRODUCTION" is written vertically in the center of the map.

# INTRODUCTION

# 1. INTRODUCTION

The Southern Hemisphere, often overlooked in relation to geopolitical spaces as the “Euro-Atlantic”, the “Indo-Pacific” or even the “Wider North”, is a vast space of increasing strategic significance.<sup>1</sup> It accounts for everything south of the Equator, including the southern parts of Africa and South America, as well as the whole of Australasia and the islands to the south of the Pacific, Indian and Atlantic oceans. At the geographic heart of the Southern Hemisphere sits the vast and frigid continent of Antarctica, covering some 14.2 million square kilometres – making it the world’s fifth largest continent, at roughly twice the size of Australia, and slightly smaller than South America.<sup>2</sup>

Antarctica is entirely surrounded by the Antarctic – or Southern – Ocean, from which Antarctica was first sighted by British and Russian expeditions only in January 1820, just 149 years before people first set foot on the Moon.<sup>3</sup> Antarctica would likely be filled with human activity, like all other continents, if it were not for the fact that the climatic conditions there are significantly more extreme than even the coldest regions of Siberia or some of the driest areas of the world’s deserts.<sup>4</sup> The heyday of economic activity in Antarctica and especially the sub-Antarctic zone was during the nineteenth century and during the first part of the twentieth century. This was driven by demand for whale oil for lighting and cosmetics, but the discovery of, and transition to, modern hydrocarbons and plant-based oils made these forms of economic activity increasingly outmoded by the early 1960s, forcing the whaling stations – once numerous in the South Atlantic and Antarctic, particularly in South Georgia and Deception Island – to shut down.<sup>5</sup> The exception to this was the Soviet Union, which due to an arbitrary decision to meet production targets for whales during the 1950s and 1960s – described by the journalist Charles Homans as

- 1 The Euro-Atlantic refers to the Atlantic region, broadly covered by the North Atlantic Treaty Organisation; the Indo-Pacific describes the vast maritime space stretching from the Gulf to the Bering Strait, via the Strait of Malacca; and the Wider North refers to the Arctic and Sub-Antarctic zones, the North Atlantic and Northern Europe.
- 2 “The World Factbook”, Central Intelligence Agency, 2020, <https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html>.
- 3 While eighteenth-century explorers long thought that a large continent existed south of the 60th parallel – Captain James Cook deduced during his Second Voyage between 1772 and 1775 that the icebergs he came across could only be caused by such a landmass – its remoteness meant that it took several decades further for the territory to be found. See: Erin Blakemore, “Who really discovered Antarctica? Depends who you ask”, *National Geographic*, 29 January 2020, <https://www.nationalgeographic.co.uk/history-and-civilisation/2020/01/who-really-discovered-antarctica-depends-who-you-ask>.
- 4 The lowest recorded air temperature on Earth (–89.2°C) was recorded at Russia’s Vostok Station in 1983, though satellite data collected between 2004 and 2016 suggests that the temperature may frequently plummet to below –90°C in the East Antarctic Plateau. See: Ted A. Scambos et al., “Ultralow Surface Temperatures in East Antarctica From Satellite Thermal Infrared Mapping: The Coldest Places on Earth”, *Geophysical Research Letters* 45, no. 12 (June 2018): 6124-6133.
- 5 See: “Whaling stations”, Government of South Georgia and the South Sandwich Islands, accessed 15 July 2020, <http://www.gov.gs/heritage-2/whaling-stations/> and “South Georgia: The lost whaling station at the end of the world”, *BBC Magazine*, 9 June 2014, <https://www.bbc.co.uk/news/magazine-27734930>.



“the most senseless environmental crime of the twentieth century” – decimated much of the humpback whale population.<sup>6</sup>

But Antarctica is still thought to hold significant quantities of raw materials. There are also proven reserves of hydrocarbons in the Ross Sea, which alone is estimated to account for 50 billion barrels of oil and more than 100 trillion cubic metres of natural gas.<sup>7</sup> The main obstacle to exploiting them is that they are underneath up to 4.8 kilometres of ice – itself holding 90 per cent of the world’s fresh water.<sup>8</sup> Under current circumstances the extraction of these resources would simply be cost prohibitive. However, the Antarctic Ocean contains an abundance of krill, fish and other marine life – so-called “biological resources” – which may have become more numerous since whale populations were repressed in the mid-twentieth century.<sup>9</sup>

The climatic extremes and the cost of extraction have combined to limit human activity on the Southern Continent to natural and space-related scientific research activities, as well as adventure tourism. This has been compounded by the development of the Antarctic Treaty System (ATS) since 1959, whereby signatories agreed to set aside their territorial claims and use the continent only for peaceful purposes.<sup>10</sup> The ATS emerged during the early years of the Cold War as the US, UK and their allies sought to dampen strategic rivalry from spilling over in Antarctica, particularly as several countries were thought to be looking to make territorial claims on the continent.

Of the ATS signatories, seven – Argentina, Australia, Chile, and New Zealand, and, indirectly via their overseas territories in the South Atlantic and Southern Indian Ocean, the United Kingdom (UK), Norway and France – have made claims on Antarctic territory. Others – particularly, the United States (US) and Russia – have reserved the right to make future claims. In recent years, these “established” Antarctic powers have been joined by an additional group of increasingly active countries, including South Korea, Turkey, and India. Chief amongst these is China, with its

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- 6 From the late 1940s to the 1970s, the Soviet Union hunted more whales in the Southern Ocean than all other countries put together, with most of the slaughter undertaken only to meet arbitrary (and unnecessary) production targets set in Moscow. See: Virginia M. Walsh, “Illegal Whaling for Humpbacks by the Soviet Union in the Antarctic, 1947-1972”, *Journal of Environment and Development* 8, no. 3 (September 1999): 307-327 and Charles Homans, “The most senseless environmental crime of the 20th century”, *Pacific Standard*, last modified 14 June 2017, <https://psmag.com/social-justice/the-senseless-environment-crime-of-the-20th-century-russia-whaling-67774>.
  - 7 There are several conflicting estimates of Antarctica’s oil and gas reserves. The US Geological survey estimated in 1992 that there are 19 billion barrels of recoverable oil and 106 trillion cubic feet of gas, amounting to 36 billion barrels of oil equivalent. However, Rosgeologia claims from a 2020 seismic survey that there is at least 513 billion barrels of oil and gas equivalent in Antarctica. This figure should be approached with caution as the Antarctic and Southern Ocean Coalition claims it is “extremely unlikely” that Antarctica harbours reserves in this quantity. See: Sergey Sukhankin, “Is Russia Preparing to Challenge the Status Quo in Antarctica?”, The Jamestown Foundation, 9 June 2020, <https://jamestown.org/program/is-russia-preparing-to-challenge-the-status-quo-in-antarctica-part-one/>; John Kingston, “The Undiscovered Oil and Gas of Antarctica”, US Geological Survey, 1992, <https://pubs.usgs.gov/of/1991/0597/report.pdf>; Simon Watkins, “Russia Makes Move on Antarctica’s 513 Billion Barrels of Oil”, Business Insider, 16 March 2020, <https://markets.businessinsider.com/news/stocks/russia-makes-move-on-antarcticas-513-billion-barrels-of-oil-1029001777#>; and “The Antarctic Oil Myth”, Antarctic and Southern Ocean Coalition, 20 April 2014, <https://www.asoc.org/component/content/article/9-blog/1184-the-antarctic-oil-myth>.
  - 8 “Antarctic factsheet”, British Antarctic Survey, accessed 1 July 2020, <https://www.bas.ac.uk/science/science-and-society/education/antarctic-factsheet-geographical-statistics/>.
  - 9 Lize-Marié van der Watt, “Antarctica”, *Encyclopaedia Britannica*, accessed 1 July 2020, <https://www.britannica.com/place/Antarctica>.
  - 10 “The Antarctic Treaty System”, Scientific Committee on Antarctic Research, accessed 1 July 2020, <https://www.scar.org/policy/antarctic-treaty-system/>.

ambition to become a leading Antarctic power, itself a component of its broader strategic agenda to become the world's leading power by the middle of the twenty-first century.<sup>11</sup>

## 1.1 CHILE AND THE SOUTHERN HEMISPHERE

Insofar as Chile considers itself a “tri-continental country” – with territories spanning South America, the Pacific and Antarctica – Santiago has a plethora of national interests to uphold. Chief among these are its sovereign claims over the area – called Territorio Chileno Antártico [Chilean Antarctic Territory] – between the meridians 53° and 90° longitude west.<sup>12</sup> This means that Chile's claim partly overlaps with those of Argentina and the UK. Chile's Antarctic claim is predicated on geographic proximity and continuity between South America and Antarctica through the Antarctic Peninsula and the effective occupation of the territory for research, exploration, and economic activities permitted under the ATS.<sup>13</sup> Chile also justifies its claim through historical connections relating to the colonial period.<sup>14</sup> Coordinated through the Chilean Antarctic Institute (INACH) under the Ministry of Foreign Affairs' Directorate of Antarctica, Chile describes its activities as a “medium-sized programme” – with funding coming from the annual Budget Law as well as the armed forces.<sup>15</sup>

Chile undertook an extensive review of its Antarctic position in 2015. The review evaluated Chile's presence, scientific work, and regional and national connections in Antarctica – as well as Chile's position within the ATS – through the lens of strengths, opportunities, weaknesses, and threats.<sup>16</sup> Through this process Santiago recognised several key weaknesses in its Antarctic posture, such as a loss of competitive advantage due to its failure to update scientific and logistical capabilities.<sup>17</sup>

As part of the review, Chile identified 11 national objectives for Antarctica, which aim to “protect and strengthen Chile's Antarctic rights” and “strengthen and increase” its “influence” in the

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11 See, for example, Goh Sui Noi, “Xi Jinping's 2050 vision: A China that stands tall in the world”, *The Straits Times*, 19 October 2017, <https://www.straitstimes.com/asia/east-asia/xi-jinpings-2050-vision-a-china-that-stands-tall-in-the-world>.

12 “Antártica” [Antarctica], Ministry of Foreign Affairs (Chile), accessed 1 July 2020, <https://minrel.gob.cl/minrel/site/edic/base/port/antartica.html>. This territory was delineated by Decree 1.747 (1940), signed by President Pedro Aguirre Cerda.

13 Juaní Soledad Bombin Sanhueza, “La Política Antártica Chilena” [Chile's Antarctic Policy], May 2009, *Revista de Marina* [Marine Magazine], <https://revistamarina.cl/revistas/2009/5/bombin.pdf>, 446-447.

14 Óscar Pinochet de la Barra (1977), *La Antártica chilena* (4th edition), Santiago: Editorial Andrés Bello.

15 “Antártica” [Antarctica], Ministry of Foreign Affairs (Chile) and Cristián Ferrer, “Cuánto invierte Chile en la Antártica”, [How much does Chile invest in Antarctica?], INACH, 24 October 2016, <https://www.inach.cl/inach/?p=20529>.

16 “Chile en la Antártica: Visión Estratégica al 2035” [Chile in Antarctica: Strategic Vision to 2035], *Ministry of Foreign Affairs* (Chile), December 2015, [https://minrel.gob.cl/minrel/site/artic/20121010/asocfile/20121010172919/vision\\_estrategica.pdf](https://minrel.gob.cl/minrel/site/artic/20121010/asocfile/20121010172919/vision_estrategica.pdf).

17 *Ibid.*, 21.

ATS.<sup>18</sup> In particular, through the untrammelled proximity of Punta Arenas to the cluster of bases on and surrounding the Antarctic Peninsula, Chile seeks to position itself as the leading “bridge country” to the Southern Continent.<sup>19</sup> Through economically integrating the Chilean Antarctic territory into continental Chile – particularly the Magallanes Region – and through initiatives to raise awareness of Antarctica among Chilean schoolchildren, the Ministry of Foreign Affairs has sought to consolidate Chile’s sovereignty.<sup>20</sup>

Chile’s claim on Antarctica is underpinned by a sizable array of military- and civilian-run installations. The largest site run by the armed forces is Presidente Eduardo Frei Montalva Base, which contains an airport and is adjacent to the Chilean research station Professor Julio Escudero (with a peak population of 50 researchers). Together on King George Island, these two facilities form “Villa Las Estrellas” – said to be one of Antarctica’s only two “villages”.<sup>21</sup> The capital of Chilean Antarctica, Bernardo O’Higgins General Base, located on the Antarctic Peninsula, forms another sizable military-run installation, followed by the Captain Arturo Prat Naval Base, in the South Shetland Islands.<sup>22</sup> In addition, the INACH operates a plethora of summer research facilities, including Doctor Guillermo Mann Base (with a peak capacity of six scientists) and Yelcho Base (with a peak capacity of 22).<sup>23</sup>

Nonetheless, despite a new and distinct national policy, it is not clear the extent to which Chile has a corresponding national strategy for Antarctica – even for achieving its principal objectives. Besides the fact that the icebreaker *Almirante Óscar Viel*, decommissioned in 2019, will not be

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18 Chile’s 11 objectives are: 1. Protect and strengthen Chile’s Antarctic rights with clear geographical, historical, and legal foundations; 2. Strengthen and increase Chile’s influence in the Antarctic Treaty System; 3. Achieve effective participation in the Antarctic Treaty System; 4. Strengthen the national Antarctic institutions; 5. Preserve Antarctica as a zone of peace, scientific activities, and natural reserve; 6. Maintain international cooperation; 7. Promote Chile’s facilities as a “bridge country” in Antarctica and strengthen the participation of the Magallanes region; 8. Orient national Antarctic science towards big trends; 9. Promote the conservation of marine living resources and southern fishing; 10. Promote controlled tourism; 11. Address the need for territorial planning. See: “Política Antártica Nacional chilena 2017: Promulgada por Decreto Supremo No. 56- 2017 del Ministerio de Relaciones Exteriores ” [Chilean National Antarctic Policy: Promulgated by Supreme Decree No. 56- 2017 of the Ministry of Foreign Affairs], *Revista Tribuna Internacional [International Tribune Magazine]* 6, No. 12 (2017): 2.

19 Ibid., 8.

20 See: “Magallanes y Antártica chilena: Estrategia Regional de Desarrollo 2012-2020” [Magallanes and Chilean Antarctica: Regional Development Strategy 2012-2020], Regional Council for Magallanes and Chilean Antarctica, 2012, <http://www.subdere.gov.cl/documentacion/magallanes-y-ant%C3%A1rtica-chilena-estrategia-regional-de-desarrollo-per%C3%ADodos-2012-2020>; “Las estrategias de Chile para conquistar la Antártica” [Chile’s strategies to conquer Antarctica], *Prensa Antártica*, 4 July 2012, <https://prensaantartica.cl/2012/07/04/las-estrategias-de-chile-para-conquistar-la-antartica/>; and Luis Valentín Ferrada Walker, “La nueva Política Antártica Nacional chilena” [The new Chilean National Antarctic Policy], National Academy of Political and Strategic Studies – Ministry of National Defence (Chile), accessed 10 July 2020, <https://www.anepe.cl/la-nueva-politica-antartica-nacional-chilena/>.

21 “Base Profesor Julio Escudero” [Professor Julio Escudero Base], INACH, accessed 8 July 2020, [https://www.inach.cl/inach/?page\\_id=12684](https://www.inach.cl/inach/?page_id=12684). See also: Simon Romero, “Antarctic Life: No Dogs, Few Vegetables and ‘a Little Intense’ in the Winter”, *The New York Times*, 6 January 2016, <https://www.nytimes.com/2016/01/07/world/americas/chile-antarctica-villa-las-estrellas.html>.

22 “Base General Bernardo O’Higgins” [Bernardo O’Higgins General Base], INACH, accessed 8 July 2020, [https://www.inach.cl/inach/?page\\_id=12696](https://www.inach.cl/inach/?page_id=12696) and “Base Naval Capitán Arturo Prat” [Capitán Arturo Prat Naval Base], INACH, accessed 8 July 2020, [https://www.inach.cl/inach/?page\\_id=12686](https://www.inach.cl/inach/?page_id=12686).

23 “Base Doctor Guillermo Mann” [Doctor Guillermo Mann Base], INACH, accessed 8 July 2020, [https://www.inach.cl/inach/?page\\_id=12694](https://www.inach.cl/inach/?page_id=12694) and “Base Yelcho” [Yelcho Base], INACH, accessed 8 July 2020, [https://www.inach.cl/inach/?page\\_id=12698](https://www.inach.cl/inach/?page_id=12698).

replaced until 2023,<sup>24</sup> the country may be starting to face a new set of “Antarctica challenges”. As Doaa Abdel-Motaal, the Executive Director of the Rockefeller Foundation Economic Council on Planetary Health, points out, the “conventional wisdom” – that Antarctica will remain a peaceful continent – “is not only wrong – it is dangerous.” She goes on: “To believe that Antarctica is a battle-free scientific playground is to ignore not just current developments in the Antarctic, but also history.”<sup>25</sup>

This is not to say that Chile’s policymakers and strategists should worry that the Antarctic – or the broader Southern Hemisphere, of which Chile is part – is about to descend into intense geo-strategic competition, let alone outright war. What it is to say is that they should be more aware of the geopolitical and environmental forces that are starting to affect the Antarctic. As Klaus Dodds, Professor of Geopolitics at Royal Holloway, University of London argues, as “the Antarctic becomes subject to ever greater demands to better manage, regulate, and understand it, so too will it become ever more important to understand how Antarctic geopolitics mutates in the present and in the future.”<sup>26</sup> Indeed, as modern technology and the acceleration of climate change enable an increasing number of countries to operate in the Antarctic in a way that they have not before, some powers may start to ignore or attempt to revise existing regimes and structures as they grow in power and influence.

So while Chile seeks to uphold its territorial claims by acting as a respected ATS signatory and as a “bridge country” – *primus inter pares* – to the Southern Continent,<sup>27</sup> Chilean policymakers and strategists might also do well to consider that their Antarctic hinterland may be drawn into a growing strategic competition between the major powers – not least China and the US. They also need to take into account the fact that Chile controls the Strait of Magellan, which connects the Pacific with the Atlantic, and the southernmost territories of South America through Cape Horn.

## 1.2 OUTLINE

Given Chile’s interests and proximity to Antarctica, this study appraises the emerging geopolitics of the Southern Hemisphere through an analysis of the ATS and the interests and activities of

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- 24 Although Chile lacks an icebreaker until 2023, it has a specialised ship for Antarctic research purposes and the Chilean Air Force has experimented with the use of Black Hawk helicopters in Antarctica to increase the connectivity of the territory with the mainland. See: Nicolás García, “Chile retira del servicio el rompehielos AP-46 ‘Almirante Viel’” [Chile Retires the icebreaker AP-46 “Almirante Viel” from service], *InfoDefensa*, 2 January 2019, <https://www.infodefensa.com/latam/2019/01/02/noticia-chile-retira-servicio-rompehielos-almirante.html>; Pamela Squella, “Asmar comienza ensamble del rompehielos chileno que relevará al buque Almirante Viel” [Asmar begins assembly of the Chilean icebreaker that will relieve the ship Almirante Viel], *Defensa*, 4 February 2020, <https://www.defensa.com/chile/asmar-comienza-ensamble-rompehielos-chileno-releva-buque-viel/>; “Buque AP-41 ‘Aguiles’” [Ship AP-41 “Achilles”], INACH, accessed 8 July 2020, [https://www.inach.cl/inach/?page\\_id=14101](https://www.inach.cl/inach/?page_id=14101); and “Helicóptero ‘Black Hawk’ de la Fuerza Aérea de Chile Llegó hasta la Antártica” [“Black Hawk” Helicopter of the Chilean Air Force reached the Antarctic], *La Prensa Austral*, 29 September 2019, <https://laprensaaustral.cl/cronica/helicoptero-black-hawk-de-la-fuerza-aerea-de-chile-llego-hasta-la-antartica/>.
- 25 Doaa Abdel-Motaal, *Antarctica: The Battle for the Seventh Continent* (Praeger: Santa Barbara, California, 2019), 2-3.
- 26 Klaus Dodds, “Antarctic geopolitics”, in *Handbook on the Politics of Antarctica*, ed. Klaus Dodds et al. (Cheltenham: Edward Elgar, 2017), 212.
- 27 Camila Jorquera, “Chile y su posicionamiento estratégico en el Sistema Antártico” [Chile and its strategic positioning in the Antarctic System], Research Institute in Social Sciences, December 2016, [https://www.icsoc.cl/wp-content/uploads/2016/12/ICSO\\_DT31\\_Jorquera.pdf](https://www.icsoc.cl/wp-content/uploads/2016/12/ICSO_DT31_Jorquera.pdf), 16.



the major Antarctic powers, both “old” and “new”, as well as through the development of four scenarios. Besides this introduction, this report is divided into two additional sections. The next section, section two, focuses on the emerging geopolitics of the Southern Hemisphere; it starts by reviewing the ATS and the “established” actors, before looking at the rise of China – a potential revisionist – which might disrupt the region in the years and decades ahead. The following section, section three, identifies the two main “mega-trends” that are likely to be seen in the Southern Hemisphere over the next 30 years, before moving on to identify how both trends might play out in four different contexts, each of which is designed to help Chilean policymakers and strategists understand how Antarctica may change and develop over the next 30-year timeframe.



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**Map 1** | The map is a geographical approximation produced using the World Map Generator (<http://www.worldmapgenerator.com/en/daVinci>) and the Miller Projection, centred on the South Pole. As such, the base map is proportional, and to scale, but the upper layers are added by the researchers. These are approximations, but at the scale of A4, should not confuse or mislead the reader.



# THE GEOPOLITICS OF THE SOUTHERN HEMISPHERE

## 2. THE GEOPOLITICS OF THE SOUTHERN HEMISPHERE

Antarctica, although at the geographic “core” of the Southern Hemisphere, has been held – in terms of geopolitics – in “suspended animation” since the mid-twentieth century. Besides the fact that Antarctica is inhospitable and was very remote from the Euro-Atlantic centre of the Cold War, the US and UK wanted to ensure that Antarctica would not get drawn in to capitalist and communist rivalry. It was for this reason that the ATS was assembled.

### 2.1 THE ANTARCTIC TREATY SYSTEM (ATS)

By the mid-twentieth century a number of countries had asserted claims on territory in Antarctica and research stations were being built to consolidate those claims. Fearing increased tensions between the Antarctic claimants – many of whom were close US allies – as well as increased Soviet activity in the Southern Hemisphere, Washington began to promote the idea of a governance regime for the region.<sup>28</sup> At the same time, the International Geophysical Year (IGY) 1956-1957, which focused heavily on Antarctica, showed what countries could achieve scientifically by combining their efforts.

The following year, the US hosted a Conference on Antarctica and pushed twelve of the countries involved in the IGY to ascertain how scientific cooperation in Antarctica could be continued.<sup>29</sup> This resulted in the Antarctic Treaty in 1959, which, after ratification, entered into force in 1961. Through this treaty, signatories agreed to use Antarctica “for peaceful purposes only”; to ensure “freedom of scientific investigation...and cooperation towards that end...should continue”; to share information and exchange personnel with one another; to “freeze” existing and not make new territorial claims; to not detonate nuclear devices on the continent or dispose of radioactive waste there; and to allow for observation of national Antarctic research stations and facilities.<sup>30</sup>

The treaty, covering the entire Antarctic continent – all areas south of latitude 60° south – remains in force today and has since been ratified by 42 further countries (meaning the treaty has 54 signatories in total).<sup>31</sup> At its heart sits the Antarctic Treaty Consultative Meetings (ATCM), which have met annually since 1994 (they met bi-annually from 1961 to 1994). The ATCM is composed of “Antarctic Treaty Consultative Parties” (ATCP) – those signatories with decision-making power – and non-consultative parties. The Scientific Committee on Antarctic Research (SCAR)

28 According to John Foster Dulles, the US Secretary of State, the Antarctic Treaty was needed “to keep Antarctica in friendly hands.” Cited in Anne-Marie Brady, *China as a Polar Great Power* (Washington, DC: Woodrow Wilson Centre Press and Cambridge: Cambridge University Press, 2017), 42, Google Books.

29 The twelve countries were: Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Soviet Union, the UK, and the US. For the “Final Act” of the conference, see: “Compilation of Key Documents of the Antarctic Treaty System”, Secretariat of the Antarctic Treaty, 2017, [https://documents.ats.aq/atcm40/ww/ATCM40\\_ww014\\_e.pdf](https://documents.ats.aq/atcm40/ww/ATCM40_ww014_e.pdf), 9-20.

30 *The Antarctic Treaty*, Washington, DC, 1 December 1959, [https://documents.ats.aq/ats/treaty\\_original.pdf](https://documents.ats.aq/ats/treaty_original.pdf).

31 “The Antarctic Treaty”, Department of State (US), last modified 22 April 2019, <https://www.state.gov/wp-content/uploads/2019/05/141-Antarctic-Treaty.pdf>.



coordinates scientific research and provides the ATCM with independent scientific advice. With a Secretariat located in Buenos Aires in Argentina, the Antarctic Treaty itself is due to continue until at least 2048, when any signatory can propose changes, but only with the consent of 75 per cent of the ATCP.

In addition, the Antarctic Treaty has become part of a broader system including “related agreements”, namely the Convention for the Conservation of Antarctic Seals (1972), the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) (1980), and the Protocol on Environmental Protection (1991) (the so-called Madrid Protocol), which resulted in the Committee for Environmental Protection (CEP).<sup>32</sup> These were designed to prevent ATS signatories – and discourage non-signatories) from exploiting Antarctic resources and degrading the continent’s delicate ecosystems.

Although the ATS – as the British Antarctic Survey (BAS) points out – “has become recognised as one of the most successful sets of international agreements, setting an example of peaceful cooperation for the rest of the world”, it would be erroneous to think that signatories are purely altruistic.<sup>33</sup> Although the ATS has done much to subdue traditional geopolitics and economic exploitation in the “Deep South”, signatories have continued to pursue their national interests. The original territorial claimants have not given up on their claims, while the Antarctic Treaty itself – with its emphasis on science – might have actively encouraged signatories to establish a scientific and technological presence.<sup>34</sup> Indeed, Antarctic Treaty signatories can only become ATCPs by demonstrating their ability to conduct “*substantial* [emphasis added] research activity” in the Southern Continent.<sup>35</sup> In this sense, geopolitics in Antarctica has not necessarily been subdued; rather, it has been pursued through other means.

## 2.2 ANTARCTIC TERRITORIAL CLAIMANTS

Besides Chile, six additional countries stand out as having specific importance as ATS signatories due to their territorial claims on the Southern Continent. These “established” powers are – in order of the date of their claims – France (1840), the UK (1908), New Zealand (1923), Norway (1931), Australia (1933), and Argentina (1943). In addition, their importance is derived from the proximity of their homeland or overseas territories to Antarctica, and/or because they have built up an extensive presence there, particularly in terms of scientific activities. With the exception of Argentina, whose claims on Britain’s various territories in the South Atlantic, including some sub-Antarctic territories, could be described as “revisionist”, most claimants are decisively “preservationist” in their approach.

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32 For more on these related agreements, see: “Related Agreements”, Secretariat of the Antarctic Treaty, accessed 10 July 2020, <https://www.ats.aq/e/related.html>.

33 “The Antarctic Treaty Explained”, British Antarctic Survey, accessed 10 July 2020, <https://www.bas.ac.uk/about/antarctica/the-antarctic-treaty/the-antarctic-treaty-explained/>.

34 See: Klaus Dodds, “Governing Antarctica: Contemporary Challenges and the Enduring Legacy of the 1959 Antarctic Treaty”, *Global Policy* 1, no. 1 (January 2010), 110.

35 “ATCM and Other Meetings”, Secretariat of the Antarctic Treaty, accessed 10 July 2020, <https://www.ats.aq/e/atcm.html>.

## 2.2.1 France (1840)

France's interests in the Southern Hemisphere concern its overseas territories – the sub-Antarctic Kerguelen Islands and its claim on Adélie Land in Antarctica (lying between meridians 136° and 142° longitude east)<sup>36</sup> – and its position as an original signatory to the ATS. However, France has no definable national strategy or set of policies in the Antarctic, instead all of its activities are run through the Polar Institute Paul-Emile Victor (IPEV), a para-governmental scientific body, with an annual budget of €28 million.<sup>37</sup> The IPEV maintains two permanent bases: the Dumont d'Urville Station (with a peak capacity of 25-35 staff in winter and around 100 in summer) and Concordia Station (a joint Franco-Italian station with a peak capacity of 13-15 staff in winter and between 50 and 70 in summer).<sup>38</sup> In addition, the IPEV (in conjunction with the French Navy) operates a small icebreaker, the *Astrolabe*, which was commissioned in 2017, and a multi-purpose vessel, the *Marion Dufresne*, to supply and monitor France's overseas territories in the Southern Hemisphere.<sup>39</sup> France and Australia have also cooperated numerous times on scientific projects and operations.<sup>40</sup>

## 2.2.2 United Kingdom (1908)

Alongside a Russian expedition, British explorers were the first to register a confirmed sighting of Antarctica in 1820. The UK is the second-oldest claimant of territory in the Southern Continent and claims the area – known as British Antarctic Territory – from meridians 20° to 80° longitudes west, overlapping with the claims of Chile and Argentina.<sup>41</sup> Britain also possesses the Falkland Islands and the sub-Antarctic South Georgia and South Sandwich Islands in the South Atlantic.

The UK's scientific programme in the region is run by the BAS. Its budget is around £50 million per year, with the majority coming from the Natural Environment Research Council (NERC).<sup>42</sup> The BAS maintains a significant and dispersed presence in and around the Antarctic, centred on one of the region's largest facilities – Rothera – which has a peak capacity of in excess of 100 staff in the summer and 22 in the winter.<sup>43</sup> Additional facilities include: Halley VI, which holds 70 staff in the summer and usually 16 in winter (however, due to safety concerns, no staff have "wintered" since January 2017);<sup>44</sup> King Edward Point, which holds 44 staff in summer and 12 in

36 "Territorial Claims of the Antarctic", Arcgis, accessed 14 July 2020, <https://www.arcgis.com/apps/MapJournal/index.html?appid=2b1fd17f462047c087e9ce27152b2379>

37 "The Institute", Polar Institute Paul-Emile Victor, accessed 30 June 2020, <https://www.institut-polaire.fr/ipev-en/the-institute/>.

38 "Antarctica", Polar Institute Paule-Emile Victor, accessed 30 June 2020, <https://www.institut-polaire.fr/ipev-en/support-for-science/antarctica/>.

39 See: "Astrolabe", Polar Institute Paule-Emile Victor, accessed 30 June 2020, <https://www.institut-polaire.fr/ipev-en/infrastructures-2/boats/astrolabe/> and Marion Dufresne, Polar Institute Paule-Emile Victor, accessed 30 June 2020, <https://www.institut-polaire.fr/ipev-en/infrastructures-2/boats/marion-dufresne/>.

40 Anthony Bergin, "Australia and France collaborate to reduce environmental security risks", Australian Strategic Policy Institute, 27 June 2019, <https://www.aspistrategist.org.au/australia-and-france-collaborate-to-reduce-environmental-security-risks/>.

41 "Territorial Claims of the Antarctic", Arcgis, accessed 14 July 2020, <https://www.arcgis.com/apps/MapJournal/index.html?appid=2b1fd17f462047c087e9ce27152b2379>

42 "Our Organisation", British Antarctic Survey, accessed 13 July 2020, <https://www.bas.ac.uk/about/about-bas/our-organisation/>.

43 "Research Stations", British Antarctic Survey, accessed 13 July 2020, <https://www.bas.ac.uk/polar-operations/sites-and-facilities/station/> and "Rothera Research Station", British Antarctic Survey, accessed 13 July 2020, <https://www.bas.ac.uk/polar-operations/sites-and-facilities/facility/rothera/>.

44 "Halley VI Research Station", British Antarctic Survey, accessed 13 July 2020, <https://www.bas.ac.uk/polar-operations/sites-and-facilities/facility/halley/>.

winter);<sup>45</sup> Bird Island (which holds 10 staff during summer and four in the winter);<sup>46</sup> and Signy, the only seasonal station run by the BAS.<sup>47</sup> Of all the stations, only Rothera and Halley VI lie within the bounds of the ATS, with the rest stationed in sub-Antarctic South Georgia nearby.

The British Antarctic presence is supplemented by a research icebreaker— due to be replaced with a state-of-the-art vessel, the RRS *Sir David Attenborough*, later in 2020 – and five aircraft for transport and survey.<sup>48</sup> In addition, the Royal Navy operates an icebreaker, HMS Protector, in support of Britain’s wider Antarctic presence<sup>49</sup>.

The British Antarctic Territory’s strategy for the period 2019 to 2029 aims “to maintain the security and good governance of the British Antarctic Territory (BAT)”.<sup>50</sup> It seeks to achieve this aim by focusing on five key objectives: 1. “To promote the BAT and the UK in Antarctica, including by increasing awareness through education and outreach with partners”; 2. “To protect the Territory’s environment, on the basis of thorough science and research”; 3. “To preserve British heritage for future generations”; 4. “Ensure there is an effective and proportionate legislative and administrative framework”; 5. “To effectively administer the Territory, including managing finances in accordance with the best financial practice”.<sup>51</sup>

### 2.2.3 New Zealand (1923)

New Zealand claims millions of square kilometres of Antarctic space, known as Ross Territory (lying between meridians 160° longitude east and 150° longitude west).<sup>52</sup> New Zealand’s only Antarctic base is Scott Station, which has a peak capacity of 86 staff during the winter, rising to 300 during the summer season.<sup>53</sup>

The Antarctic Science Platform is responsible for New Zealand’s Antarctic activities. Its 2019 Antarctic commitment replaced its previous commitment from 2002 and heavily emphasises the environmental and scientific nature of its Antarctic presence.<sup>54</sup> More specifically, New Zealand is focused on ensuring that the Antarctic environment is protected by abiding by the ATS and en-

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45 “King Edward Point Research Station”, British Antarctic Survey, accessed 13 July 2020, <https://www.bas.ac.uk/polar-operations/sites-and-facilities/facility/king-edward-point/>.

46 “Bird Island Research Station”, British Antarctic Survey, accessed 13 July 2020, <https://www.bas.ac.uk/polar-operations/sites-and-facilities/facility/bird-island/>.

47 “Signy Research Station”, British Antarctic Survey, accessed 13 July 2020, <https://www.bas.ac.uk/polar-operations/sites-and-facilities/facility/signy/#science>.

48 See: “Research ships”, British Antarctic Survey, accessed 13 July 2020, <https://www.bas.ac.uk/polar-operations/sites-and-facilities/ship/>; “RRS Sir David Attenborough”, British Antarctic Survey, accessed 13 July 2020, <https://www.bas.ac.uk/polar-operations/sites-and-facilities/facility/rrs-sir-david-attenborough/>; and “Aircraft capability”, British Antarctic Survey, accessed 13 July 2020, <https://www.bas.ac.uk/polar-operations/sites-and-facilities/aircraft/>.

49 “HMS Protector (A173)”, Royal Navy, accessed 13 July 2020, <https://www.royalnavy.mod.uk/our-organisation/the-fighting-arms/surface-fleet/survey/antarctic-patrol-ship/hms-protector>.

50 “British Antarctic Territory Strategy 2019-2029”, British Antarctic Territory, accessed 13 July 2020, <https://britishantarcticterritory.org.uk/wp-content/uploads/2019/07/British-Antarctic-Territory-Strategy-2019-2029-Accessible.pdf>

51 Ibid.

52 “Territorial Claims of the Antarctic”, Arcgis, accessed 14 July 2020, <https://www.arcgis.com/apps/MapJournal/index.html?appid=2b1fd17f462047c087e9ce27152b2379>

53 “Scott Base”, Antarctica New Zealand, accessed 30 June 2020, <https://www.antarcticanz.govt.nz/scott-base>.

54 “Our Statement of Commitment to Antarctica and the Southern Ocean”, Ministry of Foreign Affairs and Trade (New Zealand), 2019, <https://www.mfat.govt.nz/en/environment/antarctica/ourcommitment/>.

couraging its own missions to protect the biodiversity of the region, notably fisheries in the Ross Sea. New Zealand wants to uphold the ability to undertake scientific research unimpeded in the Antarctic. In keeping with its longstanding anti-nuclear posture, New Zealand seeks to ensure a “nuclear free” zone in Antarctica.<sup>55</sup>

In June 2019 the Antarctic Science Platform announced a NZ\$26 million investment in research projects, largely focused on the effects of climate change.<sup>56</sup> However, the recent Covid-19 pandemic has forced it to drop 23 of its 36 research projects in the region.<sup>57</sup>

### 2.2.4 Norway (1931)

Norway claims one sub-Antarctic territory, Bouvet Island, and two Antarctic territories, Peter I Island and Queen Maud Land, which are collectively situated between meridians 20° longitude east and 45° longitude west.<sup>58</sup> Norway maintains a permanent base – *Troll* – with a peak capacity of eight staff over the winter and “many more” over the summer.<sup>59</sup> It also upholds a much smaller, summer-only, research station called *Tor*, which houses three or four staff.<sup>60</sup>

Norway’s activities in the region are the responsibility of the Norwegian Polar Institute. It has no defined strategy for the Southern Hemisphere, but instead pursues broader policy goals, usually in collaboration with other nations and under the terms defined by the ATS. The Norwegian Polar Institute states that its primary goals are to “ensure that the region’s unique natural and environmental riches are preserved for future generations” and to maintain the Antarctic as “an important reference area for research on global environmental systems”.<sup>61</sup> And, although Norway accepts that it is also a “responsible commercial actor”, it calls this a “well-defined, science-based policy”, which seeks to protect the environment and ensure that the Antarctic is a region “devoted to peace and science”.<sup>62</sup>

### 2.2.5 Australia (1933)

Known as Australian Antarctic Territory, Australia’s territorial claim – at some 5.9 million square kilometres – is the largest in Antarctica, representing just over 40 per cent of the continental landmass.<sup>63</sup> This claim is situated between meridians 45° and 160° longitudes east (except for Adélie Land – which is between meridians 136° and 142° longitudes).<sup>64</sup> Australia maintains four

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55 Ibid.

56 Ripu Bhatia, “New Zealand scientists to launch world-leading climate study in Antarctica”, Stuff, 19 June 2019, <https://www.stuff.co.nz/environment/113601379/new-zealand-scientists-launch-world-leading-climate-change-study-in-antarctica>.

57 “Coronavirus: New Zealand cuts research in Antarctica to keep it virus free”, BBC, 9 June 2020, <https://www.bbc.com/news/world-asia-52975134>.

58 “Territorial Claims of the Antarctic”, Arcgis, accessed 14 July 2020, <https://www.arcgis.com/apps/MapJournal/index.html?appid=2b1fd17f462047c087e9ce27152b2379>

59 “Troll”, Norwegian Polar Institute, accessed 30 June 2020, <https://www.npolar.no/en/troll>.

60 “Tor Research Station”, Norwegian Polar Institute, accessed 30 June 2020, <https://www.npolar.no/en/tor/>.

61 Magnus Hovind Rognhaug, *Norway in the Antarctic* (Oslo: Norwegian Polar Institute, 2014), 22.

62 Norwegian Ministry of Foreign Affairs, *Norwegian Interests and Policy in the Antarctic* (Oslo: Storting, 2015), 9.

63 “Australian Antarctic Territory”, Australian Antarctic Division, accessed 1 July 2020, <https://www.antarctica.gov.au/about-antarctica/australia-in-antarctica/australian-antarctic-territory/>.

64 “Territorial Claims of the Antarctic”, Arcgis, accessed 14 July 2020, <https://www.arcgis.com/apps/MapJournal/index.html?appid=2b1fd17f462047c087e9ce27152b2379>



bases in its Antarctic territory, all of which are staffed year-round: Casey is the largest, has a peak capacity of 160 staff in the summer and 20 over winter; Davis has a peak capacity of 120 staff in the summer and 18 in winter; Macquarie Island has a peak capacity of 40 staff, with 14 in the winter; and Mawson is the smallest, with a peak capacity of 24 staff over the summer, falling to 16 during winter.<sup>65</sup>

The Australian Antarctic Division (AAD) under the Department of Agriculture, Water and the Environment bears responsibility for Australia's approach to Antarctica. In 2016, Australia adopted the "Australian Antarctic Strategy and 20-Year Action Plan", which focused largely on environmental and commercial concerns, albeit with some national security considerations.<sup>66</sup> This strategy sets out seven "national interests": 1. Maintaining Antarctica's freedom from political confrontation; 2. Preserving Australian sovereignty over Australian Antarctic Territory; 3. Supporting a "strong and effective" ATS; 4. Conducting scientific research; 5. Protecting the Antarctic environment; 6. Upholding situation awareness over a region "geographically proximate to Australia"; 7. Fostering commercial opportunities in line with the ATS.<sup>67</sup>

The AAD has provided AU\$25 million of funding to scientific programmes up to 2018–2019.<sup>68</sup> Furthermore, it seeks to develop Tasmania into the "premier East Antarctic gateway for science and operations", including an investment of AU\$38 million into extending the Hobart International Airport runway in order to "stimulate international engagement, growth in Tasmania's Antarctic sector, and support for the Australian Antarctic Program".<sup>69</sup> On top of these financial investments, Australia has also sought to utilise its military capabilities, in the form of C-17A aircraft, to provide it with "heavy-lift cargo capability".<sup>70</sup> Moreover, the Australian strategy lays out plans for the development of an icebreaker, which represents the "biggest single investment by an Australian government in the Australian Antarctic program".<sup>71</sup>

## 2.2.6 Argentina (1943)

Argentina claims sovereignty over the so-called "Antártida Argentina" [Argentine Antarctica], comprising the meridians 25° and 74° west longitude south of the parallel 60° south longitude.<sup>72</sup> Argentine Antarctica overlaps with the claims of Chile and the UK, and Buenos Aires' relations with the latter remain fraught due to Argentina's continued claims on the Falkland Islands and South Georgia in the South Atlantic.<sup>73</sup> Argentina's Antarctic posture is the responsibility of the Instituto Antártico Argentino [Argentine Antarctic Institute], a scientific and technological body that reports to the National Directorate for Antarctica under the Ministry of Foreign Affairs. Currently, Argentina has six permanent bases in Antarctica and seven seasonal bases, all within

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65 "Stations", Australian Antarctic Division, last modified 26 November 2019, <https://www.antarctica.gov.au/living-and-working/stations>.

66 Australian Antarctic Division, *Australian Antarctic Strategy and 20 Year Action Plan* (Canberra: Australian Government, 2016), 17.

67 *Ibid.*

68 *Ibid.*, 22.

69 *Ibid.*, 3 and 22.

70 *Ibid.*

71 *Ibid.*, 1.

72 "Antártida" [Antarctica], Ministry of Foreign Affairs, International Trade, and Worship (Argentina), accessed 1 July 2020, <https://cancilleria.gob.ar/es/politica-exterior/antartida>.

73 Oran R. Young, "Foreword: Why should we take an interest in what happens in Antarctica?", in *Handbook on the Politics of Antarctica*, ed. Klaus Dodds et al. (Cheltenham: Edward Elgar, 2017), xiv.

Argentine Antarctica.<sup>74</sup> The largest are Marambio and Esperanza, each with a peak capacity of 90-95 staff.<sup>75</sup> For logistics and support, the country operates a maritime fleet led by the ice-breaker ARA *Almirante Irizar* as well as a range of aircraft such as the C-130 Hercules, Bell 412 helicopters, and two Super Puma helicopters based on the ARA *Almirante Irizar*.<sup>76</sup>

Besides attempting to achieve “greater efficiency of presence”,<sup>77</sup> Argentina’s Antarctic policy centres on three primary and interrelated national objectives: 1. The development of enhanced scientific activity; 2. Cooperation and exchange with other Antarctic claimants; 3. Collaboration with various countries on Antarctic research.<sup>78</sup> Accordingly, Buenos Aires has attempted to boost scientific output, insofar as it is considered to be “the centre of gravity of Argentine Antarctic activity”.<sup>79</sup> Similarly to other Antarctic powers, Argentina has sought to project influence through intellectual spaces to consolidate the “entrenchment of Argentine sovereign rights in Antarctica”.<sup>80</sup> As part of this, Felipe Solá, the Argentine Foreign Minister, has publicly stated that Argentina seeks to turn Ushuaia and the province of Tierra del Fuego into the “Antarctic Logistics centre it deserves to be”.<sup>81</sup>

However, despite an Antarctic policy not so dissimilar to other territorial claimants in the Southern Continent, Argentina’s volatile national political system means its approach is often tinged with nationalism, an issue further compounded by the country’s claims on British territories in the South Atlantic.<sup>82</sup> This has led to a “political juggling game”: on the one hand, Argentina honours its ATS obligations; on the other, it seeks to visibly project sovereignty over the Antarctic areas it has claimed.<sup>83</sup> In the 1980s, this led to the construction of new bases and the

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74 Antarctic Station Catalogue, Council of Managers of National Antarctic Programs, 2017, [https://www.com-nap.aq/wp-content/uploads/2019/11/COMNAP\\_Antarctic\\_Station\\_Catalogue.pdf](https://www.com-nap.aq/wp-content/uploads/2019/11/COMNAP_Antarctic_Station_Catalogue.pdf).

75 Ibid.

76 “Logística y medios de transporte” [Logistics and Means of Transport], Ministry of Foreign Affairs, International Trade, and Worship (Argentina), accessed 1 July 2020, <https://www.cancilleria.gob.ar/es/iniciativas/dna/antartida-argentina/logistica-y-medios-de-transporte>.

77 “Programa Antártico Argentino: Plan Anual Antártico 2018-2019” [Argentine Antarctic Programme Annual Antarctic Plan], National Directorate for Antarctica (Argentina), 2018, [https://www.cancilleria.gob.ar/user-files/ut/paa\\_2018\\_2019\\_0.pdf](https://www.cancilleria.gob.ar/user-files/ut/paa_2018_2019_0.pdf), 4.

78 Miryam Colacrai, “La Política Antártica Argentina y su compromiso con el Tratado Antártico” [Argentina’s Antarctic Policy and its commitment to the Antarctic Treaty], in *Institucionalización de la Actividad Antártica Argentina: Visión de Corto y Mediano Plazo del Programa Antártico Argentino* [Institutionalisation of Argentine Antarctic Activity: Short and Medium Term Vision of the Argentine Antarctic Programme], Boletín del Centro Naval [Naval Centre Newsletter] No. 836, May 2013, <https://centronaval.org.ar/boletin/BCN836/836-COLACRAI.pdf>, 273-274.

79 Ibid.

80 “Programa Antártico Argentino: Plan Anual Antártico 2018-2019” [Argentine Antarctic Programme Annual Antarctic Plan], National Directorate for Antarctica (Argentina), 2018, [https://www.cancilleria.gob.ar/user-files/ut/paa\\_2018\\_2019\\_0.pdf](https://www.cancilleria.gob.ar/user-files/ut/paa_2018_2019_0.pdf), 2-3.

81 “El canciller Solá afirmó que ‘defender la presencia argentina en la Antártida requiere coherencia y vocación nacional’” [Foreign Minister Solá stated that “defending the Argentine presence in Antarctica requires coherence and a national vocation”], Ministry of Foreign Affairs, International Trade, and Worship (Argentina), 21 February 2020, <https://cancilleria.gob.ar/es/actualidad/noticias/el-canciller-sola-afirmo-que-defender-la-presencia-argentina-en-la-antartida>.

82 Matthew C. Benwell, “Argentine territorial nationalism in the South Atlantic and Antarctica”, in *Handbook on the Politics of Antarctica*, ed. Klaus Dodds et al. (Cheltenham: Edward Elgar, 2017), 540-554.

83 Miryam Colacrai, “La Política Antártica Argentina y su compromiso con el Tratado Antártico” [Argentina’s Antarctic Policy and its commitment to the Antarctic Treaty], in *Institucionalización de la Actividad Antártica Argentina: Visión de Corto y Mediano Plazo del Programa Antártico Argentino* [Institutionalisation of Argentine Antarctic Activity: Short and Medium Term Vision of the Argentine Antarctic Programme], Boletín del Centro Naval [Naval Centre Newsletter] No. 836, May 2013, <https://centronaval.org.ar/boletin/BCN836/836-COLACRAI.pdf>, 271.

establishment of “populations” through registering births in Antarctic stations.<sup>84</sup> This represents a certain continuity with the earliest days of Argentina’s presence, when the country sought to use Antarctic meteorological facilities to demonstrate “a practical as well as a symbolic engagement” to “further legitimise” its “conception of the Antarctic Peninsula region as geographically connected to Tierra del Fuego.”<sup>85</sup>

More recently, Argentina has not shied away from courting China. In 2017, Argentina and China signed an agreement to develop joint cooperation in Antarctic scientific, technological, and logistical matters.<sup>86</sup> This follows a controversial secret treaty signed in 2014 allowing China to operate a space base in Patagonia, a facility – described as a “Black Box” – over which Buenos Aires has no oversight.<sup>87</sup>

## 2.3 ENGAGED ANTARCTIC NON-TERRITORIAL CLAIMANTS

Besides the seven established claimants to Antarctic territory, 22 further countries have an active presence in the Southern Continent, including Japan and South Korea, which is manifest through their research activities and installations.<sup>88</sup> Of these, three countries – the US, Russia and Brazil – have particular significance, due to the size of their programmes and/or their potential for disruption of the prevailing Antarctic order.

### 2.3.1 United States

Although an original signatory to the Antarctic Treaty, the US lays no claim to any portion of the Antarctic and refuses to recognise any other country’s claims to territory. However, the US retains the right to make future territorial claims.<sup>89</sup> The United States Antarctic Program (USAP) is run by the National Science Foundation,<sup>90</sup> which has dedicated US\$488 million to study the polar regions – both the Arctic and Antarctica – in 2019–2020.<sup>91</sup> The Office of Ocean and Polar Affairs, under the Department of State, also handles all diplomatic affairs associated with the region.

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84 Ibid., 272.

85 Peder Roberts, “The Politics of Early Exploration”, in *Handbook on the Politics of Antarctica*, ed. Klaus Dodds et al. (Cheltenham: Edward Elgar, 2017), 322.

86 “La Argentina y China Firmaron un convenio de cooperación para la Antártida” [Argentina and China signed a cooperation agreement for Antarctica], *Télam*, 26 May 2017, <https://www.telam.com.ar/notas/201705/190351-argentina-china-acuerdo-cooperacion-antartida.html>.

87 For more on this facility, see: Cassandra Garrison, “China’s military-run space station in Argentina is a ‘black box’”, *Reuters*, 31 January 2019, <https://www.reuters.com/article/us-space-argentina-china-insight/chinas-military-run-space-station-in-argentina-is-a-black-box-idUSKCN1PP0I2> and Erin Watson-Lynn, “The gravity of China’s space base in Argentina”, *The Interpreter*, 9 June 2020, <https://www.lowyinstitute.org/the-interpreter/gravity-china-s-space-base-argentina>.

88 For a list of active Antarctic powers, see: Antarctic Station Catalogue, Council of Managers of National Antarctic Programs, 2017, [https://www.comnap.aq/wp-content/uploads/2019/11/COMNAP\\_Antarctic\\_Station\\_Catalogue.pdf](https://www.comnap.aq/wp-content/uploads/2019/11/COMNAP_Antarctic_Station_Catalogue.pdf).

89 “Antarctic Region”, Department of State (US), accessed 1 July 2020, <https://www.state.gov/key-topics-office-of-ocean-and-polar-affairs/antarctic/>.

90 Transportation Research Board and National Research Council, *Polar Icebreakers in a Changing World: An Assessment of U.S. Needs* (Washington, DC: National Academies Press, 2007), 21.

91 Leah Feiger and Mara Wilson, “The Countries Taking Advantage of Antarctica During the Pandemic”, *The Atlantic*, 15 May 2020, <https://www.theatlantic.com/politics/archive/2020/05/antarctica-great-power-competition-australia-united-states-britain-russia-china-arctic/611674/>.

Strategically, other than seeking “to promote Antarctica’s status as a continent reserved for peace and science” in accordance with the ATS, the US has no definable national strategic policy for Antarctica (the region was omitted from the 2017 *National Security Strategy and the 2018 National Defence Strategy*<sup>92</sup>) and no formal Antarctic strategy.<sup>93</sup> However, the National Science Foundation has outlined four key principles it seeks to uphold in the region: 1. The non-recognition of territorial claims in Antarctica; 2. The right to participate in any future use of the region; 3. The pursuit of peaceful activities only; 4. The maintenance of free access for scientific investigation and similar pursuits.<sup>94</sup>

However, as the world’s largest economic and military power, the US retains numerous scientific, commercial, and national security interests in the Antarctic. It should therefore come as no surprise that, despite not having a territorial claim in Antarctica, America has the largest presence and scientific assets of any country there. The USAP maintains three large permanent scientific stations in the Antarctic, including the only station at the geographic South Pole. The hub of the US presence is McMurdo Station, the largest station in Antarctica, with a peak capacity of 1,258 staff, located on Ross Island in the Ross Sea. Other permanent US facilities include Amundsen-Scott South Pole Station, located at the geographic South Pole, with a peak capacity of 250 staff, and Palmer Station, with a peak capacity of 40 people, which is located on Anvers Island off the Antarctic Peninsula.<sup>95</sup> On average, over 3,500 people work in the USAP each year, with around 800 scientists present in the Antarctic, carrying out research.<sup>96</sup>

With increased Chinese and Russian activity in the region, alongside pressure for a relaxation of fishing and mining protections, American strategists have questioned their country’s preparedness for elevated geostrategic competition in the southern continent.<sup>97</sup> On 9 June 2020, the White House issued a Memorandum on Safeguarding US National Interests in the Arctic and Antarctic Regions, which ordered the relevant US government departments to:

lead a review of requirements for a polar security icebreaking fleet acquisition program to acquire and employ a suitable fleet of polar security icebreakers, and associated assets and resources, capable of ensuring a persistent US presence in the Arctic and Antarctic regions in support of national interests and in furtherance of the National Security Strategy and the National Defense Strategy, as appropriate.<sup>98</sup>

The memorandum called for the fleet to be ready by 2029. So as it prepares for an age of great power competition – the key threat outlined in the 2017 National Security Strategy and 2018

92 Ralph Espach and Nilanthi Samaranyake, “Antarctica is the New Arctic: Security and Strategy in the Southern Ocean”, CNA, 17 March 2020, <https://www.cna.org/news/InDepth/article?ID=40>.

93 “Antarctic Region”, Department of State (US), accessed 1 July 2020, <https://www.state.gov/key-topics-of-office-of-ocean-and-polar-affairs/antarctic/>.

94 “U.S. Policy for Antarctica”, National Science Foundation (U.S.), accessed 1 July 2020, <https://www.nsf.gov/geo/opp/antarct/uspolicy.jsp>.

95 See: “U.S. Antarctic Program”, National Science Foundation (U.S.), accessed 1 July 2020, [https://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=102869](https://www.nsf.gov/news/news_summ.jsp?cntn_id=102869) and “Palmer Station”, National Science Foundation (U.S.), accessed 2 July 2020, <https://www.nsf.gov/geo/opp/support/palmerst.jsp>.

96 Ibid.

97 Leah Feiger and Mara Wilson, “The Countries Taking Advantage of Antarctica During the Pandemic”, *The Atlantic*, 15 May 2020, <https://www.theatlantic.com/politics/archive/2020/05/antarctica-great-power-competition-australia-united-states-britain-russia-china-arctic/611674/>.

98 “Memorandum on Safeguarding U.S. National Interests in the Arctic and Antarctic Regions”, The White House, 9 June 2020, <https://www.whitehouse.gov/presidential-actions/memorandum-safeguarding-u-s-national-interests-arctic-antarctic-regions/>.

National Defense Strategy – the US Government appears set to beef up its strategic reach and presence in the Antarctic.

### 2.3.2 Russia

Russia makes no claim on any Antarctic territory, but has reserved the right to make a claim. Its approach to Antarctica is narrated through the “Development Strategy for Activities in the Antarctic for the Period Until 2020 and for a Longer-Term Perspective” (hereafter, ‘Antarctic Strategy’)<sup>99</sup>, which was adopted in 2010, as well as a number of other official state documents, including successive iterations of both the Foreign Policy Concept and Maritime Doctrine.<sup>100</sup>

Russia’s Antarctic Strategy states that one of its aims is to “maintain the Antarctic as a zone of peace, stability and cooperation and prevent possible international tension sources as well as global threats of natural and climatic origin”. The Strategy also makes clear that the Antarctic is important to Russia not only in and of itself, but also because of what it means for Russia’s role internationally. Another of the Strategy’s aims is to

enhance the international prestige of the Russian Federation through large-scale political, social, scientific and environmental measures related to the activities of Russia in the Antarctic.<sup>101</sup>

To achieve these aims, the Antarctic Strategy sets eight “Priority Tasks”, including: preserving and developing the ATS; using Antarctica for research purposes, both about climate change as well as biological (e.g., fish) resources; undertaking geological and geophysical studies of hydrocarbon and mineral resources; and, modernising Russia’s infrastructure in the region.

Some details of the Antarctic Strategy have changed since 2010 (in order to achieve the aims outlined in the Strategy, for example, the Kremlin adopted shorter-term Plans for 2013-2017 and 2018-2022<sup>102</sup>), but it is clear that the results of the Strategy have been significantly more modest than what was envisaged. Russia struggles with contradictory policy agendas and interests, including between national security priorities and commercial objectives. Russia declared that 2020 would be the “Year of Antarctica”<sup>103</sup> and announced an expedition by research vessels to its Bellingshausen research station to participate in a series of events commemorating the first confirmed sighting of Antarctica by a Russian explorer, Fabian Gottlieb von Bellingshausen, in

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99 “Strategiya razvitiya deyatel’nosti Rossiyskoy Federatsii v Antarktike na period do 2020 goda i na boleye otdalennuyu perspektivu” [Strategy for the development of the activities of the Russian Federation in Antarctica for the period up to 2020 and in the longer term], *Rossiskaya Gazeta*, 31 March 2011, <https://rg.ru/2011/03/31/antarktika-site-dok.html>.

100 See: “Concept of the Foreign Policy of the Russian Federation”, Ministry of Foreign Affairs (Russia), 18 February 2013, [https://www.mid.ru/en/foreign\\_policy/official\\_documents/-/asset\\_publisher/CptlCk6BZ29/content/id/122186](https://www.mid.ru/en/foreign_policy/official_documents/-/asset_publisher/CptlCk6BZ29/content/id/122186); “Foreign Policy Concept of the Russian Federation”, Ministry of Foreign Affairs (Russia), 1 December 2016, [https://www.mid.ru/en/foreign\\_policy/official\\_documents/-/asset\\_publisher/CptlCk6BZ29/content/id/2542248](https://www.mid.ru/en/foreign_policy/official_documents/-/asset_publisher/CptlCk6BZ29/content/id/2542248); and “Maritime Doctrine of the Russian Federation”, Russia Maritime Studies Institute, July 2015, [https://dnnlgwick.blob.core.windows.net/portals/0/NWCDepartments/Russia%20Maritime%20Studies%20Institute/Maritime%20Doctrine%20TransENGrus\\_FINAL.pdf?sr=b&si=D-NNFileManagerPolicy&sig=fqZgUUVVRrKmsFNMOj%2FNaRNawUoRdhdpvFj7%2FpAkM%3D](https://dnnlgwick.blob.core.windows.net/portals/0/NWCDepartments/Russia%20Maritime%20Studies%20Institute/Maritime%20Doctrine%20TransENGrus_FINAL.pdf?sr=b&si=D-NNFileManagerPolicy&sig=fqZgUUVVRrKmsFNMOj%2FNaRNawUoRdhdpvFj7%2FpAkM%3D).

101 Ibid.

102 “Ob obespechenii deyatel’nosti Rossiyskoy antarkticheskoy ekspeditsii v 2018–2022 godakh” [On ensuring the activities of the Russian Antarctic Expedition in 2018–2022], Government of the Russian Federation, 21 April 2018, <http://government.ru/docs/32370/>.

103 “2020 will be declared the year of Antarctica in Russia”, *RIA Science*, 8 August 2019, <https://ria.ru/20190808/1557306087.html>.

1820.<sup>104</sup> In reality, however, Russia's current operations are hampered by insufficient funding, as well as the deteriorating state of its research assets and fishing fleets.

Russia maintains 10 research bases in Antarctica, five of which are operational all year: Mirniy (peak capacity of 50 staff), Vostok (peak capacity of 30 staff), Progress (peak capacity of 50 staff), Novolazarevskaya (peak capacity of 70 staff) and Bellingshausen (peak capacity of 40 staff).<sup>105</sup> Scientists who have recently worked at the bases have complained that they are in need of significant modernisation and trail behind other, more technologically advanced, bases in the region.<sup>106</sup> For example, Vostok, which was built in central Antarctica in 1957, was last re-modernised in 1979 and is said to be in a state of near-disrepair.<sup>107</sup> Russia's annual budget for its activities in the Antarctic is 1.2bn roubles (US\$19 million) which, according to Sergei Khrushchev, director of the State Department on Arctic and Antarctic Research, is "peanuts [when] compared to other countries".<sup>108</sup>

During the Soviet period and even into the 1990s, Soviet/Russian ships were the main krill harvesters in the Antarctic region, accounting for more than 95 per cent of the global volume of krill fishing.<sup>109</sup> However, Russia ceased to be a major fishing state from the mid-1990s as a result of various financial strains, the deterioration of the expedition fleet, and the stagnation of the fishing industry. In 2019, Russia sent a scientific expedition to assess fish stock in Antarctica after a 15-year break.<sup>110</sup> The same year, Russia – together with China – blocked a proposal to create a one million square kilometre sanctuary in Antarctica,<sup>111</sup> saying that the proposal, put forward by the International Commission for CCAMLR, was "discriminatory" because it would restrict its access to the "great bioresources of the Antarctic waters".<sup>112</sup>

In early 2020, Russia's state-run geological surveyor, Rosgeologia, undertook its first seismic survey in the Antarctic for more than 20 years in order to gauge the potential of offshore oil and gas in the Riiser-Larsen Sea.<sup>113</sup>

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104 "Barque SEDOV", Russian Sails 2020, accessed 8 July 2020, <http://russiansails2020.ru/en/>.

105 'Russia', Antarctic Station Catalogue, Council of Managers of National Antarctic Programs, 2017, [https://www.comnap.aq/wp-content/uploads/2019/11/COMNAP\\_Antarctic\\_Station\\_Catalogue.pdf](https://www.comnap.aq/wp-content/uploads/2019/11/COMNAP_Antarctic_Station_Catalogue.pdf), pg. 106-124.

106 *ibid.* and "The battle for Antarctica: Russia is losing ground to China", *Newizv.ru*, 16 July 2018, <https://newizv.ru/article/general/16-07-2018/bitva-za-antarktidu-rossiya-sdaet-pozitsii-kitayu>.

107 A. Ignatiev, "NOVATEK & Antarktida. V pravitel'stve RF obsudili khod sozdaniya novogo zimovochnogo kompleksa antarkticheskoy stantsii Vostok [NOVATEK & Antarctica. The government of the Russian Federation discussed the progress in creating a new winter complex at the Vostok base in Antarctica]", 28 August 2019, <https://neftegaz.ru/news/gosreg/483920-v-pravitelstve-rf-obsudili-sozdanie-novogo-zimovochnogo-kompleksa-antarkticheskoy-stantsii-vostok/>

108 "Antarktida: Chto uchenyye ishchut na ledovom kontinente cherez 200 let posle yego otkrytiya" [Antarctica: What Scientists Are Looking For On The Ice Continent 200 Years After Its Discovery], *Komsomol'skaya Pravda*, 22 January 2020, <https://www.kp.ru/daily/27083/4155737/>

109 Ksenia Idrisova, "Analysis: What is Russia up to in Antarctica?", *BBC Monitoring*, 28 January 2020, <https://monitoring.bbc.co.uk/product/c201ezgi>.

110 "V Sovete Federatsii obsudili problemy i perspektivy osvoyeniya bioresursov Mirovogo okeana" [The Federation Council discussed the problems and prospects for the development of the biological resources of the World Ocean], Federal Agency for Fisheries (Russia), 27 November 2019, <http://fish.gov.ru/obiedinennaya-press-sluzhba/novosti/28958-v-sovete-federatsii-obsudili-problemy-i-perspektivy-osvoeniya-bioresursov-mirovogo-okeana>.

111 Ekaterina Venkina, "Russia has blocked the creation of three reserves in the Antarctic", DW, 2 November 2019, <https://p.dw.com/p/3SMPc>.

112 "Problems and prospects of the development of biological resources of the oceans in the interests of the Russian Federation", Federal Assembly (Russia), 27 November 2019, <http://council.gov.ru/media/files/qZTAeU9uBSItxsGxgutA0KJZyo8p47Nm.pdf>.

113 Robert Perkins and Rosemary Griffin, "Russia stokes political tensions with hunt for Antarctic oil", *S&P Global*, 21 February 2020, <https://www.spglobal.com/platts/en/market-insights/latest-news/oil/022120-russia-stokes-political-tensions-with-hunt-for-antarctic-oil>.



### 2.3.3 Brazil

Although Brazil has asserted no official territorial claim to the Southern Continent, Brazilian strategists have continued to assert potential rights under their so-called *Teoria da Defrontação*, or “Frontage Theory”.<sup>114</sup> This perspective postulates that the Antarctic should belong to those countries that face the Southern Continent, particularly those in South America – which would give Brazil the lion’s share (all territory south of 60°S, and from 28°W to 53°W). In 2012, in the National Defence Strategy, Brazil formally asserted that the Antarctic was within its “strategic environment”; a point re-asserted when the strategy was updated in 2020.<sup>115</sup> Brazil has often “acted very much like a nation with possible territorial ambitions in the region”,<sup>116</sup> its activities in the Antarctic have remained rather “modest” – particularly for a country of Brazil’s size.<sup>117</sup>

Brazil joined the ATS late, in 1975, and only became a consultative member, with voting rights, in 1983. Since then, despite “Frontage Theory” and the incorporation of the Antarctic into its “strategic environment”, Brazil has pursued its interests in the region primarily through a scientific presence.<sup>118</sup> Upholding this presence is the responsibility of Programa Antártico Brasileiro [Brazilian Antarctic Programme] (PROANTAR), which is run by the Brazilian Navy.<sup>119</sup> Brazil’s presence has been centred on the Comandante Ferraz Antarctic Station since February 1984.<sup>120</sup> Although Brazil’s efforts were set back in 2012 when a fire destroyed the facility, the station was reopened in early 2020 (with a peak capacity of 65 staff) – and built by a Chinese state-owned enterprise – at a cost of US\$100m.<sup>121</sup>

The Brazilian Navy supplements its Antarctic terrestrial presence with two ships, the polar vessel *Almirante Maximiano* and oceanographic support vessel *Ary Rongel*.<sup>122</sup> In February 2019, Brazil’s

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- 114 Daniella Portella Sampaio et al., “A modest but intensifying power? Brazil, the Antarctic Treaty System and Antarctica”, in *Handbook on the Politics of Antarctica*, ed. Klaus Dodds et al. (Cheltenham: Edward Elgar, 2017), 306.
- 115 “Política Nacional de Defesa e a Estratégia Nacional de Defesa”, Ministry of Defence (Brazil), accessed 7 July 2020, [https://www.gov.br/defesa/pt-br/arquivos/estado\\_e\\_defesa/END-PNDa\\_Optimized.pdf](https://www.gov.br/defesa/pt-br/arquivos/estado_e_defesa/END-PNDa_Optimized.pdf), 21 and “Política Nacional de Defesa e a Estratégia Nacional de Defesa”, Ministry of Defence (Brazil), accessed 8 September 2020, [https://www.gov.br/defesa/pt-br/assuntos/copy\\_of\\_estado-e-defesa/pnd\\_end-congresso\\_.pdf](https://www.gov.br/defesa/pt-br/assuntos/copy_of_estado-e-defesa/pnd_end-congresso_.pdf), 11. See also: Sabrina Evangelista Medeiros and Leonardo Faria de Mattos, “Antarctica as a South Atlantic Maritime Security Issue”, in *Maritime Security Challenges in the South Atlantic*, ed. Erico Duarte and Manuel Correia de Barros (New York: Springer, 2018), 106.
- 116 Frank G. Klotz, *America on the Ice: Antarctic Policy Issues* (Washington, DC: National Defence University Press, 1990), 125.
- 117 Daniella Portella Sampaio et al., “A modest but intensifying power? Brazil, the Antarctic Treaty System and Antarctica”, in *Handbook on the Politics of Antarctica*, ed. Klaus Dodds et al. (Cheltenham: Edward Elgar, 2017), 306-308.
- 118 “Brazilian Antarctic Programme – PROANTAR”, Ministry of Science, Technology and Innovations (Brazil), accessed 7 July 2020, [http://www.mctic.gov.br/mctic/opencms/ciencia/SEPED/antartica/proantar/Programa\\_Antartico\\_Brasileiro\\_\\_PROANTAR.html](http://www.mctic.gov.br/mctic/opencms/ciencia/SEPED/antartica/proantar/Programa_Antartico_Brasileiro__PROANTAR.html).
- 119 Daniella Portella Sampaio et al., “A modest but intensifying power? Brazil, the Antarctic Treaty System and Antarctica”, in *Handbook on the Politics of Antarctica*, ed. Klaus Dodds et al. (Cheltenham: Edward Elgar, 2017), 306.
- 120 “Brazilian Antarctic Programme – PROANTAR”, Ministry of Science, Technology and Innovations (Brazil), accessed 7 July 2020, [http://www.mctic.gov.br/mctic/opencms/ciencia/SEPED/antartica/proantar/Programa\\_Antartico\\_Brasileiro\\_\\_PROANTAR.html](http://www.mctic.gov.br/mctic/opencms/ciencia/SEPED/antartica/proantar/Programa_Antartico_Brasileiro__PROANTAR.html).
- 121 “Brazil’s new US\$100m Antarctic base, built by China”, *South China Morning Post*, 16 January 2020, <https://www.scmp.com/news/world/americas/article/3046317/brazils-new-us100-million-antarctic-base-built-china>.
- 122 Wilder Alejandro Sanchez, “How are we getting there? The present and future of South America’s Antarctic fleet”, *The Polar Journal* 9, vol. 2 (2019), 391.

navy announced its intention to develop a new support vessel to replace the *Ary Rongel*.<sup>123</sup> That said, PROANTAR has faced serious funding challenges recently, undermining Brazil's Antarctic ambitions.<sup>124</sup>

## 2.4 DEEPENING ANTARCTIC NON-TERRITORIAL CLAIMANTS

A number of countries have sought to deepen their engagement in Antarctica as a means to increase their international profiles over recent decades, including China, India and Turkey. Of these, China is by far the most notable. Although a signatory to the Antarctic Treaty, China has amplified its activities in the Southern Hemisphere, including Antarctica, as its economic and political power has grown. Indeed, speaking in 2014 Xi Jinping declared that one of China's foreign policy goals was to join the ranks of the "Polar Great Powers" (*Jidi Qiangguo*) as part of a broader strategic ambition to become a "Maritime Great Power" (*Haiyang Qiangguo*).<sup>125</sup>

### 2.4.1 The emergence of China as an Antarctic power

Some 40 years ago, Deng Xiaoping, paramount leader of China from 1978 to 1989, expressed his country's Antarctic interests with strategic ambiguity: China would "contribute to mankind's peaceful use of Antarctica."<sup>126</sup> This language did not explicitly conflict with the letter and spirit of the ATS as it then stood. When, in 2017, China published a White Paper on its general approach to Antarctica, the terms "use" and "utilisation" appeared, but explicit references to exploitation of mineral resources (by this time strictly banned under the terms of the Madrid Protocol) were avoided.<sup>127</sup>

However, a different picture emerges from decades of internal papers and statements, which confirm that China has long intended to exploit Antarctica's mineral and biological resources, as far and as soon as possible, and has used every available means of developing the knowledge and capabilities needed to do so.<sup>128</sup> In spite of the Antarctic Treaty's requirements not to militarise the Antarctic, China is acutely aware of Antarctica's geostrategic importance and, as in regard their plans for exploiting mineral resources, has worked tirelessly within existing rules, grey areas or in outright breach, to establish dual use capabilities for explicit development at a future date.<sup>129</sup>

The unprecedented disruption caused by the Covid-19 pandemic will unquestionably affect how far China is able to pursue its Antarctic interests in the coming decades. However, even serious

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123 Ibid.

124 Herton Escobar, "Brazil opens 'spectacular' Antarctic research base, but will it have the cash to fulfill its potential?", *Science Mag*, 13 January 2020, <https://www.sciencemag.org/news/2020/01/brazil-opens-spectacular-new-research-base-antarctica>.

125 Anne-Marie Brady, *China as a Polar Great Power* (Cambridge: Cambridge University Press, 2018), 21.

126 "China's ambition to 'use' Antarctica", *East Asia Forum*, 18 August 2017, <https://www.eastasiaforum.org/2017/08/18/chinas-ambition-to-use-antarctica/>.

127 Bai Tiantian, "China Releases 1st Antarctic paper", *Global Times*, 23 May 2017, <http://www.globaltimes.cn/content/1048187.shtml>.

128 Leah Feiger and Mara Wilson, "The Countries Taking Advantage of Antarctica During the Pandemic", *The Atlantic*, 15 May 2020, <https://www.theatlantic.com/politics/archive/2020/05/antarctica-great-power-competition-australia-united-states-britain-russia-china-arctic/611674/>.

129 Anne-Marie Brady, "China's expanding interests in the Antarctic", Australian Strategic Policy Institute, 17 August 2017, <https://www.aspi.org.au/report/chinas-expanding-interests-antarctica>.

constraints on China's capacity to fund its Antarctic ambitions may not be as significant a factor as the extent to which China's rivals are afflicted by parallel distractions and constraints themselves. While the attention of the democracies is diverted by domestic disaster, the authoritarian Chinese Communist Party (CCP) may well still be able to consolidate its position.<sup>130</sup>

One constant is apparent: the importance the CCP places on China commanding a substantial stake in Antarctic governance and management, not only for concrete economic, geopolitical and geostrategic reasons, but also as a matter of national pride befitting the superpower China aspires to be.<sup>131</sup> Until the Covid-19 disaster ebbs, some delay in this campaign seems possible, on grounds of economic stress and the need to concentrate resources on securing and reviving China itself. But as long as the CCP remains in control, the quest to become a major Antarctic power is likely to continue, as part of a wider bid for global superpower status.

#### 2.4.2 China's perception of Antarctica

Prior to signing the Antarctic Treaty in 1983, China was absent from the main international Antarctic governance structure and framed its continental objectives in combative terms, both domestically and in external statements.<sup>132</sup> The original Antarctic Treaty powers and other claimants were viewed as a Cold War clique, intent on excluding China from its share of resources that were global commons or the shared legacy of humanity.<sup>133</sup> While this public tone was substantially moderated after China signed the Antarctic Treaty, the value of Antarctic resources and the utility of exploiting them remained central to internal discourse.

In 1983, China made its first annual expedition to Antarctica. The first Chinese base, built with the help of armed People's Liberation Army (PLA) personnel, opened in 1985.<sup>134</sup> This important first step was facilitated by Chile, and the base was constructed on an island within the Chilean territorial claim.<sup>135</sup> In 2020, Chile – like Argentina – continues to play an increasingly important role in support for Chinese activity in Antarctica.

Chinese media often frame discourse on the pursuit of Chinese interests in polar space in terms of pioneering adventure; emphasising claim-staking and fortitude and portraying their brave prospector-scientists furthering Chinese national aspirations in hazardous and uncharted territory. Given the extreme isolation and inaccessibility of Antarctica, this mode of presentation fits extremely well. From an early stage in China's physical engagement with Antarctic maritime and continental space, a fundamental objective has been to reduce dependency on the help of other states as far as possible. Soon after China first reached Dome Argus – Dome A, the highest point on the Antarctic plateau – in January 2005, the idea was promoted that China was beginning to “catch up” with the established Antarctic powers. A fundamental element in the “internal”

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130 “Coronavirus: lockdown at isolated Antarctic bases as world battles Covid-19”, *South China Morning Post*, 15 April 2020, <https://www.scmp.com/news/world/article/3080007/coronavirus-life-lockdown-isolated-antarctic-bases-world-battles-covid>.

131 “China in the Antarctic – Polar power play”, *The Economist*, 7 November 2013, <https://www.economist.com/analects/2013/11/07/polar-power-play>.

132 Anne-Marie Brady, *China as a Polar Great Power* (Cambridge: Cambridge University Press, 2018), 49.

133 Anne-Marie Brady, “China's expanding interests in Antarctica”, Australian Strategic Policy Institute, 17 August 2017, <https://www.aspi.org.au/report/chinas-expanding-interests-antarctica>.

134 *Ibid.*, 13-16.

135 Federico Sarro, “Strategic Options in Antarctica: An Alternative View on Chile-China Rapprochement”, *Global Strategy*, 13 May 2020, <https://global-strategy.org/strategic-options-in-antarctica-an-alternative-view-on-chile-china-rapprochement/>.

Chinese view of Antarctica is that the region's resources should and will be exploited, when the Madrid Protocol is open for review in 2048 if not before.<sup>136</sup>

China frames the Antarctic in much the same way as it seeks to frame outer space: as an unclaimed frontier where establishing an autonomous presence is the first step to gaining a stake in available resources.<sup>137</sup> All of this links back to the concept of China as a rising great power whose huge population, demand for resources and economic strength creates a justification for a share of resources and territorial ownership.<sup>138</sup>

This can be understood as an expression of the CCP's geo-economic strategy for growth required to feed the Chinese people and fuel China's bid for global hegemony. China has no experience of running a globalised market economy. Various plans for comprehensive economic reform have generally failed or been watered down. A need to break free of intractable stagnation led Xi Jinping to buy a new start for China's faltering domestic growth in the 2010s. The "Belt and Road Initiative" (BRI) mobilised China's state wealth to buy crucial resources and stimulate growth in foreign countries through infrastructure development, thereby exporting Chinese over-capacity, leveraging debt and creating an expanding economic, political and military sphere of influence.<sup>139</sup> The use of the phrase "Silk Road" to put a Chinese stamp on various geostrategic economic constructs is a CCP code for systems designed to secure Chinese access to distant lands where such resources – energy, timber, protein or minerals – abound. Since publishing a White Paper on the Arctic in 2018, the CCP has begun promoting the concept of an "Arctic Silk Road" – literally "Silk Road on the Ice" (*Bingshang Sichouzhilu*) – as an indication of its aspirations to regional influence.<sup>140</sup>

An important additional element that is particularly evident in China's Antarctic discourse is based on the absence of established territorial sovereignty in Antarctica. Earlier claims by the first tier of Antarctic powers have been "frozen", and are now held in limbo under the terms of the Antarctic Treaty.<sup>141</sup> The familiar Chinese theme of post-colonial revisionist entitlement takes on a somewhat different form in Antarctica. Here, rather than continually struggling with a time-limited status quo, China can bide its time and make good use of willing partners – including potential future competitors – to consolidate a foothold in the region.<sup>142</sup> Sooner or later, however, China intends to stand up and claim its "right" to a share of local resources and in due course, territorial sovereignty.<sup>143</sup> Until this time China will conceal its acquisitive intentions and

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136 David Fishman, "China's Advance Into the Antarctic", *Lawfare*, 27 October 2019, <https://www.lawfareblog.com/chinas-advance-antarctic>.

137 L. M. Foster and Namrata Goswami, "What China's Antarctic Behavior Tells Us About the Future of Space", *The Diplomat*, 11 January 2019, <https://thediplomat.com/2019/01/what-chinas-antarctic-behavior-tells-us-about-the-future-of-space/>.

138 Anne-Marie Brady, "China's undeclared foreign policy at the poles", The Lowy Institute, 30 May 2017, <https://www.loyyinstitute.org/the-interpretor/china-undeclared-foreign-policy-poles>.

139 Jon Jiang, "The Belt and Road Initiative: A Domestically-Motivated Program Fueling Global Competition", The Jamestown Foundation, 29 May 2020, <https://jamestown.org/program/the-belt-and-road-initiative-a-domestically-motivated-program-fueling-global-competition/>.

140 Tuan N. Pham, "China's Activities in the Polar Regions Cannot go Unchecked", U.S. Naval Institute, March 2019, <https://www.usni.org/magazines/proceedings/2019/march/chinas-activities-polar-regions-cannot-go-unchecked>.

141 Andrew Blackie, "Sovereignty on Ice: The Status of Antarctica in International Law", *University of New South Wales Law Journal Student Series* 16, no. 8 (2016): 4.

142 Dan Southerland, "Does China Want to Explore Antarctica or Exploit Its Resources?", Radio Free Asia, 30 November 2017, <https://www.rfa.org/english/commentaries/china-antarctica-11302017154333.html>.

143 Anne-Marie Brady, *China as a Polar Great Power* (Cambridge: Cambridge University Press, 2018), 190. See also, pages 77-78 and 190-194.

play the game of science-focused interests, collaborative effort and shared experience. It remains to be seen whether Xi Jinping's increasingly aggressive approach to international relations will also manifest in greater assertiveness in Antarctic space as it already has in the South China Sea.<sup>144</sup>

### 2.4.3 China's activities in Antarctica

China's interests in the Antarctic are determined by pursuing its recognised rights to the limit and beyond; by performing sanctioned roles which contribute directly to national agendas; and by assuming responsibilities that assuage potential critics and win further leverage over rivals.<sup>145</sup> This approach has been refined over time to the extent that even Australia, on whose claimed territory some of China's most assertive actions have played out,<sup>146</sup> has only recently begun to review its policy more clearly on grounds of national interest.<sup>147</sup> While China is believed to be in breach of some ATS commitments (including requirements to share the results of Antarctic research with other Antarctic Treaty partners, and to declare in detail the tasks performed by military personnel in Antarctica) the fact that several other Antarctic powers are equally casual in their observation of various ATS obligations makes it wrong to single China out for exclusive criticism.<sup>148</sup>

Three "rights" that China has been keen to stress include its right to undertake scientific research; its right to participate in ATS agenda setting; and its right to fish in Antarctic waters.

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144 Lindsey W. Ford and Julian Gerwitz, "China's Post-Coronavirus Aggression Is Reshaping Asia", *Foreign Policy*, 18 June 2020, <https://foreignpolicy.com/2020/06/18/china-india-aggression-asia-alliances/>.

145 Giulia Sciorati ed., "The Global Race for Antarctica: China vs. The Rest of the World?", Italian Institute for International Political Studies, 2019, [https://www.ispionline.it/sites/default/files/pubblicazioni/isp\\_i\\_dossier\\_sciorati\\_26.07.2019.pdf](https://www.ispionline.it/sites/default/files/pubblicazioni/isp_i_dossier_sciorati_26.07.2019.pdf).

146 Jackson Gothe-Snape, "China unchecked in Antarctica", *ABC News*, last updated 12 April 2019, <https://www.abc.net.au/news/2019-03-30/china-in-antarctica-inspection-regime/10858486>.

147 Anthony Bergin and Tony Press, "Eyes wide open: Managing the Australia-China Antarctic relationship", Australian Strategic Policy Institute, 27 April 2020, <https://www.aspi.org.au/report/eyes-wide-open-managing-australia-china-antarctic-relationship>.

148 Anne-Marie Brady, "China's expanding interests in the Antarctic", Australian Strategic Policy Institute, 17 August 2017, <https://www.aspi.org.au/report/chinas-expanding-interests-antarctica>.

### 2.4.3.1 The right to conduct scientific research and set up scientific bases

As is the case for many other states active in Antarctica, scientific research provides a pretext for overt or covert collection of data that could prove to be invaluable in future circumstances in which exploitation of on- and off-shore mineral and other resources was permissible, and it is of immediate value in developing and deploying advanced military capabilities in the region.<sup>149</sup> Antarctic data is particularly valuable for China's aspirations to become a global maritime power. This applies to studies of climate change, marine biology, marine and seabed mapping, geology, seismology, and much else. A proportion of China's Antarctic research publications are classified and thus not available to other states, despite the Antarctic Treaty principle that research should be shared openly.<sup>150</sup> This may indicate that at least some of this material concerns activities and objectives that are non-compliant with ATS principles concerning the aims of Antarctic research.<sup>151</sup>

China has four bases in Antarctica, some in positions carefully selected for their economic and/or military strategic value. These bases include China's oldest facility, Changcheng [Great Wall], on the Antarctic Peninsula, which has a peak capacity of 13 in the winter and 60 in the summer.<sup>152</sup> As Map 1 shows, the other three bases, which extend like an "array" into the interior of the continent, begin on the coast of the Cooperation Sea with Zhongshan, established in 1989, with a peak population of 19 staff in winter and 60 in the summer.<sup>153</sup> Kunlun and Taishan, both summer facilities, were established in 2009 and 2014, respectively; the former has a summer population of 26 staff and the latter can hold up to 20.<sup>154</sup>

Despite these bases' geostrategic locations, some Chinese Antarctic scholars concerned with strategic rather than conventional scientific research nevertheless consider that the established Antarctic Treaty powers have pre-empted China in the selection of prime strategic sites, and believe that, as a result, China has had to make do with less favourable options. Nevertheless, China's Kunlun Station on Dome Argus is perfectly situated to deploy sophisticated telescoping with direct military applications. Thermal telescopes at Kunlun Station, capable of serving military purposes, are connected to a command centre in Nanjing, China.<sup>155</sup> Other research involving scientists from other nations is also conducted at Kunlun Station.<sup>156</sup> Taishan Station is a summer-only station, opened in 2014, focusing on research related to geology, glaciers and climate change.<sup>157</sup> A fifth station is being built near the Ross Sea, which is due to open in 2022.<sup>158</sup>

Having achieved self-sufficiency in Antarctica, China now seeks to achieve this in getting to Antarctica. As such, it would be surprising if Beijing did not plan to increase the number of airfields serving Chinese bases, for the strategic importance they offer in terms of both current logistics

149 Ibid.

150 Anne-Marie Brady, *China as a Polar Great Power* (Cambridge: Cambridge University Press, 2018), 105-106.

151 James C. Bliss, "China in Antarctica: The End of the Antarctic Treaty System", US Army War College, 2017, <https://publications.armywarcollege.edu/pubs/3394.pdf>.

152 "Antarctic Station Catalogue", Council of Managers of National Antarctic Programs, 2017, [https://www.comnap.aq/wp-content/uploads/2019/11/COMNAP\\_Antarctic\\_Station\\_Catalogue.pdf](https://www.comnap.aq/wp-content/uploads/2019/11/COMNAP_Antarctic_Station_Catalogue.pdf).

153 Ibid.

154 Ibid.

155 Anne-Marie Brady, *China as a Polar Great Power* (Cambridge: Cambridge University Press, 2018), 113 and 174.

156 Anne-Marie Brady, *China as a Polar Great Power* (Cambridge: Cambridge University Press, 2018), 174.

157 Sen Wang, "China's Antarctic Program and the Antarctic Treaty System", *Italian Institute for International Political Studies*, 19 July 2019, <https://www.ispionline.it/en/pubblicazione/chinas-antarctic-program-and-antarctic-treaty-system-23526>.

158 Nengye Liu, "What are China's Intentions in Antarctica?", *The Diplomat*, 14 June 2019, <https://thediplomat.com/2019/06/what-are-chinas-intentions-in-antarctica/>.



and the prospect of future military roles. These are early days, but in macro terms, the state which first achieves domination of Antarctic airspace will potentially be able to control air access to the South. Such considerations are unlikely to be lost on China's military strategists.

At the opposite end of the scale, building and staffing Chinese stations also provides opportunities for military scientists and other personnel to engage in and learn from the Antarctic environment. Specially designed polar vehicles and other equipment made by the military can be tested in extreme local conditions and perfected for associated military applications in both the Antarctic and Arctic. China, like some other Antarctic powers, has on occasions failed to report on the local activities of Chinese military personnel, contrary to its Antarctic Treaty obligations.<sup>159</sup>

Antarctic conditions and the geolocation of Chinese Antarctic sites such as Kunlun Station lend themselves to the conduct of space science and the deployment of related equipment. In 2020, China completed the long-anticipated rollout of its BeiDou satellite system, whose principal receiving station is in Antarctica. BeiDou is an important commercial dual-use system akin to GPS which, in addition to major civilian functions, has strategically important military applications that include military navigation and targeting of missile strikes.

Ground satellite stations at Changcheng [Great Wall], Zhongshan and Kunlun enable sophisticated mapping of mineral resources in their civilian mode, and in the military context provide capacity to track "hostile" satellites and spot missile launches.<sup>160</sup> China is of course not alone in making dual use of its Antarctic facilities, but as a relative latecomer to Antarctic space, it has taken particularly rapid and extensive advantage of the available opportunities.

#### 2.4.3.2 The right to participate in the Antarctic Treaty System

China regards the right to participate in Antarctic governance as of high strategic importance.<sup>161</sup> Engagement in Antarctic governance is the end point of a three-stage conceptualisation of the CCP's plan for progress through the current mechanisms of international Antarctic policy, to the point where it has realised its rightful role. This starts with establishing a "right to be heard", followed by achieving the needful "presence" and finally attaining a substantial role in Antarctic governance and management, as befits a "Polar Great Power".

On the whole, China has hitherto been keen to observe superficial forms and has done very little that might suggest ulterior motives, but there are exceptions. Overtly disruptive behaviour by China (as well as Russia) is particularly noteworthy in regard to efforts to create conservation zones such as Marine Protected Areas (MPA). China appears to interpret these initiatives as thinly veiled attempts by rival interested parties to seize control of seabed resources in order to exclude China, rather than serving the ostensible purpose of conservation. China is generally ill-disposed to clearly defined rules and constraints. The preferred mode of operation is to adhere outwardly to loosely defined norms while working behind the scenes. This is comparatively easy in Antarctica where, for example, several states neither exercise expensive rights nor fulfil irksome or inconvenient responsibilities, and unpopular ATS decisions can be disrupted by veto.<sup>162</sup>

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159 Anne-Marie Brady, *China as a Polar Great Power* (Cambridge: Cambridge University Press, 2018), 132.

160 Anne-Marie Brady, "China's expanding interests in Antarctica", Australian Strategic Policy Institute, 17 August 2017, <https://www.aspi.org.au/report/chinas-expanding-interests-antarctica>, 16.

161 Ibid.

162 "Reform the Antarctic Treaty", *Nature*, 13 June 2018, <https://www.nature.com/articles/d41586-018-05368-7>.

Chinese engagement with more effectively defined and implemented governance and management processes, especially where these relate to environmental protection and conservation, has proved equally problematic. Since 2013, China has attempted to obtain protected status, in the form of an Antarctic Specially Managed Area (ASMA), for a large area around its Kunlun Station on Dome A, on the grounds that it seeks to protect the environment there. It is more probable that the plan was to use the ASMA to limit access to this area, home to sensitive facilities and equipment, solely to Chinese personnel. This application was rejected by the ATCM, even after China toned its demand down to a less protected status.<sup>163</sup> This issue – linked transactionally to Chinese bargaining over MPA proposals elsewhere – underlines the difficult balance China has to strike between working around and seeking to exploit the current processes of Antarctic governance.

#### 2.4.3.3 The right to fish in Antarctic waters

Fishing, regulated under relevant Antarctic treaties, is the only legal form of Antarctic resource exploitation that is currently carried out on a significant scale. Given the still-imperfect understanding of the delicate Antarctic biosphere and the increasing threat of rapid climate change, it is understandable that some Antarctic Treaty signatories, who are more concerned about conservation, are attempting to row back from currently authorised practice. Others, notably China and Russia, campaign robustly to have catch limits and zones extended.

China is aggressively increasing its autonomous capacity to harvest krill in Antarctic waters, replacing current arrangements where local subcontractors, mainly from South America, have done part of the actual trawling. This maximalist approach has brought China into conflict with conservation mechanisms. China has ordered, for completion by 2023, the world's largest krill trawler, even bigger than an earlier vessel built for China by the same Finnish company. This development epitomises the familiar Chinese technique of driving forward controversial policies by concrete action rather than negotiation, a transactional approach that it puts to effect in remote and lightly governed spaces such as the South China Sea and the South Pacific, in addition to the Antarctic.

### 2.5.4 Getting there: China's geostrategy for the Southern Hemisphere

Although currently devoid of population, industry and markets, Antarctica's potentially sizable resources of hydrocarbons, minerals, freshwater and marine food products mean the CCP sees it as a potential resource base to supply China's industrial heartlands. As a prospective "polar great power", China has sought – and achieved (since 2015) – self-sufficiency in air, land and sea capabilities inside Antarctica.<sup>164</sup> The CCP also aspires to acquire full autonomy over logistics between China and Antarctica, though for the time being China will most likely continue to access Antarctica via a series of geographical gateways and their associated port and airport facilities, the level of usage varying according to local political and other considerations. As with other countries, the established access routes are via Australia and New Zealand; South America; and to a lesser extent, South Africa.

163 Jackson Gothe-Snape, "Australia declares China's plan for Antarctic conduct has 'no formal standing'", *ABC News*, 30 July 2019, <https://www.abc.net.au/news/2019-07-30/antarctica-china-code-of-conduct-dome-a/11318646?nw=0>.

164 Anne-Marie Brady, "China's expanding interests in Antarctica", Australian Strategic Policy Institute, 17 August 2017, <https://www.aspi.org.au/report/chinas-expanding-interests-antarctica>.

However, if China's deteriorating relations with Australia constrain Chinese access to the Antarctic via Tasmania, Beijing will likely focus more on South America and the South Pacific. Indeed, similarly to the BRI, it is not inconceivable that China will construct some form of an "Antarctic Silk Road" to link China to Antarctica via the South Pacific and South America. Given the approach China has adopted for the BRI – the path of least resistance – Beijing is likely to attempt to "capture" a string of weak, impoverished South Pacific client-states. This is because these would be more easily subjugated and less prone to US interference than South American nations.<sup>165</sup> This would have serious implications for the countries of South America's links to Australia and New Zealand, posing a serious strategic threat to those states, including Chile, that take a sceptical view of China as a hegemon in the region.

#### 2.5.4.1 The South American gateway

While China's earliest foray into the Antarctic was assisted by Chile, other South American countries have entered into collaborative relationships with China, most notably with Argentina.<sup>166</sup> China engages relevant countries economically to leverage political support against the day that the Antarctic Treaty is renegotiated and China seeks to increase its influence in governance processes and decisions.<sup>167</sup> At the same time, China has sought to make use of existing infrastructure to provide increased logistical support for its Antarctic stations. This is particularly the case with Chile's Punta Arenas and Argentina's Ushuaia, which serve as the primary ports where tourist ships sail to and from Antarctica.<sup>168</sup> China has also invested massive sums under BRI throughout South America, capitalising on a widespread local sense that the US has largely lost interest in the region; trade between China and Latin America reached US\$307.4bn in 2019, for example.<sup>169</sup> If bilateral tension between China and Australia continues or worsens, Chinese engagement with South American partners concerning activity in Antarctica is likely to intensify. This may not progress as smoothly as Beijing would wish, however, in the light of the disastrous impact of the Covid-19 pandemic, growing concern at economic and political damage inflicted by some of China's most transactional BRI activity, and an underlying reality of US strategic equity in the region.

#### 2.5.4.2 The Australian and New Zealander gateways

Cooperation between China and Australia in regard to Antarctica dates back to the early 1980s and grew stronger over subsequent decades. In 2013 the Government of Tasmania and the State Oceanic Administration of China (SOAC) signed a Memorandum of Understanding whereby the port of Hobart would provide support for and be accessible to Chinese vessels bound for Antarctica, and Tasmania would provide other support for Chinese Antarctic logistics and scientific research.<sup>170</sup> China's two icebreakers regularly make port calls to Hobart, and Australian flights

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165 Roland Rajah, Alexandre Dayant and Jonathan Pryke, "Ocean of Debt? Belt and Road and Debt Diplomacy in the Pacific", Lowy Institute, 21 October 2019, <https://www.lowyinstitute.org/publications/ocean-debt-belt-and-road-and-debt-diplomacy-pacific>.

166 Federico Sarro, "Strategic Options in Antarctica: An Alternative View on Chile-China Rapprochement", *Global Strategy*, 13 May 2020, <https://global-strategy.org/strategic-options-in-antarctica-an-alternative-view-on-chile-china-rapprochement/>.

167 Anne-Marie Brady, *China as a Polar Great Power* (Cambridge: Cambridge University Press, 2018), 234, fn 48.

168 Ibid.

169 Daniela Guzman and Aaron Weinman, "Belt and Road Initiative to boost Chinese lending in LatAm", *Reuters*, 28 January 2020, <https://uk.reuters.com/article/us-bri-latam/belt-and-road-initiative-to-boost-chinese-lending-in-latam-idUKKBN1ZR2GG>.

170 "Australia-China collaboration strengthens", *Australian Antarctic Magazine*, December 2014, <https://www.antarctica.gov.au/magazine/issue-27-december-2014/in-brief/australia-china-collaboration-strengthens/>

carry Chinese visitors to and around Antarctica. China's specialised Antarctic aircraft – the “Snow Eagle” – supports Australian activity in Antarctica. The two countries have engaged in extensive joint scientific research, with an increasing proportion of the costs paid by China, giving rise to concerns about Australia's growing reliance on such funding.<sup>171</sup>

However, Australia has grown increasingly concerned with the extent to which China may be taking advantage of the current ATS to carry out activities that are prohibited under the Antarctic Treaty's ban on the militarisation of the Antarctic. This and other Chinese activity in the Antarctic is increasingly seen as potentially counter to Australia's general interests and specific intentions in regard to the ATS. Notably, three of China's Antarctic bases are situated within Australia's territorial claim. As Australia's relationship with China changes – as it becomes more cautious and realistic – there is a perceived need to adjust relations over the Antarctic to fit this wider bilateral context, as well as to defend the stability and effectiveness of the ATS. Recommendations have been made suggesting that a clearer understanding of China's aims is needed, as well as stronger critical messaging when necessary and a rebalancing of Australia's cooperation with China in favour of the US, Australia's most important partner, as well as South Korea, Japan, and possibly also India.<sup>172</sup>

Like Australia, New Zealand is strategically located for access to Antarctica. Logistics and travel services to the Antarctic contribute significantly to New Zealand's economy. According to Christchurch City Council, two-thirds of the world's Antarctic scientists transit through the city en route to Antarctica.<sup>173</sup> While New Zealand strongly upholds the traditional environmental conservation and protection objectives of the ATS, it is increasingly concerned by great power competition for regional influence and resources and the consequent militarisation of Antarctica. Domestic debate continues on how New Zealand, with close ties to the US, can balance its science-based ideals with intensified economic and military realpolitik.<sup>174</sup> Considerations around national interest arise on both sides of this dilemma. Though New Zealand's economic relations with China currently constrain its political will to oppose Chinese abuses of Antarctic power,<sup>175</sup> it seems inevitable that sooner or later the country's underlying liberal alignment will bring it into line with Australia and other states that increasingly regard China's Antarctic policy as a growing challenge to national, regional and geostrategic stability and security.

#### 2.5.4.3 A southeast Pacific gateway?

China's ambition to achieve and demonstrate maritime great power status has driven it from consolidating its position in the South China Sea out into the South Pacific. In doing so, it has increased competition with both Australia and the US, which have hitherto enjoyed unchallenged dominance of the region. China's targeted transactional approach to dealings with small, politically unstable Pacific Island states – often under the BRI flag – has largely proved effective, both in terms of choking off relations with Taiwan (as it did with the Solomon Islands) and of creating

171 Anne-Marie Brady, “China's expanding interests in Antarctica”, Australian Strategic Policy Institute, 17 August 2017, <https://www.aspi.org.au/report/chinas-expanding-interests-antarctica>

172 Ibid.

173 “Christchurch's Antarctic Gateway Strategy”, Christchurch City Council, May 2018, [https://www.christchurchnz.com/media/3o1dd2ca/antarctic\\_strategy.pdf](https://www.christchurchnz.com/media/3o1dd2ca/antarctic_strategy.pdf).

174 Ibid.

175 Anne-Marie Brady, “China 2.0 and the challenge it poses to New Zealand”, *Noted*, 7 November 2018, <https://www.noted.co.nz/currently/currently-politics/anne-marie-brady-xi-jinping-china-challenge-to-nz>.

economic dependences exploitable for Chinese economic and geostrategic purposes (as in Tonga, Vanuatu and elsewhere).<sup>176</sup>

As always, China is playing a long game, encouraged by waning US interest in the purposes for which American influence was first established in this area.<sup>177</sup> China has attempted to sow discord in the relationship between Australia and Fiji, exploiting this to undermine Australia's status as the major regional ally of Pacific Island states.<sup>178</sup> Chinese naval vessels visit the region regularly, and there have been credible indications of discussions between Beijing and Vanuatu on the construction of a Chinese naval base (subsequently denied by both parties) in Papua New Guinea.<sup>179</sup>

Given the highly strategic nature of Chinese plans for global maritime expansion, it is logical to postulate that this process of establishing port facilities in the South Pacific is a precursor to increased Chinese maritime engagement in the Southern Ocean and, in due course, to the establishment of supply lines to Antarctica unconstrained by dependence on any other large power.

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176 See: Kate Lyons, "China extends influence in Pacific as Solomon Islands break with Taiwan", 16 September 2019, *The Guardian*, <https://www.theguardian.com/world/2019/sep/16/china-extends-influence-in-pacific-as-solomon-islands-break-with-taiwan>.; "Is Chinese money creating a debt trap in Tonga?", *South China Morning Post*, 10 July 2019, <https://www.scmp.com/news/china/diplomacy/article/3018029/chinese-money-creating-debt-trap-tonga>; and Charlotte Greenfield, "Vanuatu to seek more Belt and Road assistance from Beijing: PM", *Reuters*, 22 May 2019, <https://www.reuters.com/article/us-pacific-china-vanuatu/vanuatu-to-seek-more-belt-and-road-assistance-from-beijing-pm-idUSKCN1SSOR7>.

177 Simon Tisdall, "US is losing the battle for Pacific power", *The Guardian*, 7 December 2019, <https://www.theguardian.com/us-news/2019/dec/07/america-losing-battle-for-pacific-power-solomon-islands-china>.

178 Ben Doherty, "China accuses Australia of being a 'condescending master' in the Pacific", *The Guardian*, 21 August 2019, <https://www.theguardian.com/australia-news/2019/aug/21/china-accuses-australia-of-being-a-condescending-master-in-the-pacific>.

179 Jonathan Manthorpe, "China targeting Pacific isles for strategic bases", *Asia Times*, 8 June 2019, <https://asiatimes.com/2019/06/china-targeting-pacific-isles-for-strategic-bases/>.







# THE SOUTHERN HEMISPHERE: IN TRANSITION?

## 3. THE SOUTHERN HEMISPHERE: IN TRANSITION?

Since the development of the ATS, Antarctica – and the broader Southern Hemisphere of which it is part – have been relatively calm, irrespective of whether Antarctic claimants, established non-claimants and newcomers have pursued their strategic interests through their respective scientific endeavours. Although the potential review of the Madrid Protocol in 2048 may allow Antarctic and non-Antarctic powers to demand new concessions or assert new claims, the prevailing order appears likely to remain intact.

### 3.1 SETTING THE SCENE

Despite the coherence of the ATS, however, it is possible that the two prevailing “megatrends” of the present era – accelerating climate change and growing geopolitical competition between the major powers – will affect Antarctica and the broader Southern Hemisphere, to the extent that both will experience increasing friction. As Alan Hemmings, an Adjunct Professor at the University of Canterbury in New Zealand and specialist in Antarctic governance, argues:

Compared to so many places that figure in our nightly news bulletins, the Antarctic is still a relatively calm place politically. But one should not mistake this calm for an absence of activity. The Antarctic is now an object of international rivalry. In the future, who will determine the pathway to that future, and who will be the beneficiaries, are all in contest.<sup>180</sup>

Put more simply, Anne-Marie Brady, a Professor at the University of Canterbury in New Zealand and an expert in polar geopolitics, suggests that “the Antarctic Treaty now has the air of an antiquated gentleman’s club that is out of touch with present-day geopolitics.”<sup>181</sup> This rivalry and contest may have significant implications for Antarctic claimants, particularly those, like Chile, the UK, France, Australia, New Zealand and Norway, that would prefer to “preserve” the ATS and the prevailing Antarctic order.

#### 3.1.1 Geopolitical competition

Leading democracies like Australia, the UK and US have all recognised in their most recent strategic reviews that “strategic competition”, “wider state competition” or “great power competi-

180 Alan D. Hemmings, “Antarctic politics in a transforming global geopolitics”, in *Handbook on the Politics of Antarctica*, ed. Klaus Dodds et al. (Cheltenham: Edward Elgar, 2017), 508.

181 Anne-Marie Brady, *China as a Polar Great Power* (Washington, DC: Woodrow Wilson Centre Press and Cambridge: Cambridge University Press, 2017), 47, Google Books.

tion” have returned and accelerated over the past five to ten years.<sup>182</sup> General Sir Nicholas Carter, the British Chief of the Defence Staff, has described the result as “grey zone” conflict, where the world’s major revisionist powers seek to challenge the prevailing order by getting beneath the surface of military confrontation.<sup>183</sup>

Russia and China have indulged in this form of confrontation most effectively. They are as yet unable to escalate directly against the military preponderance of leading democracies – the US, UK, France and Japan – vertically (or symmetrically); instead, they have worked out how to pursue their interests horizontally (or asymmetrically), and in ways that make it difficult for the preservationist powers to push back. According to Carter, the revisionists “have become masters at exploiting the seams between peace and war”, to the extent that what “constitutes a weapon in this grey area no longer has to go ‘bang’.”<sup>184</sup> Rather, the weapon can include cyber-attacks, bending or reinterpreting international law, propaganda diffusion, and so on. The risk here is that as the revisionists grow in power, they may become bolder, leading, potentially, to miscalculation, which may result either in additional horizontal action, or direct – vertical – confrontation.

Although the Southern Hemisphere is not – and is never likely to become, at least out to 2050 – the “pivot” of global geopolitics, it is likely to become a stage for events that play out elsewhere. And, unlike the Cold War, which was confined primarily to the Northern Hemisphere (if not Europe), the new geopolitics is centred on the Indo-Pacific and thus is far closer to, and includes parts of, the Southern Hemisphere. Accordingly, short of political revolution or a prolonged economic depression in China – the leading revisionist power, with the greatest potential to cause disruption – it seems unlikely that the world will return to the period of relative calm immediately following the Cold War. It therefore makes sense to set 2020 as the baseline for the future, rather than the pivot of a scale.

### 3.1.2 Climate change

There is a scientific consensus that over the next 30 years, Antarctica is likely to experience significant climatic change in response to the rise of greenhouse gas emissions elsewhere in the world. Globally, the temperature is expected to increase by 1.5°C to 2°C above pre-industrial levels by 2050.<sup>185</sup>

Among the myriad impacts of such temperature rise will be a change in ice-cover, manifest in both losses and gains. Particularly under threat from ice losses is the West Antarctic Ice Sheet

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182 Australia’s latest Defence Strategy (2020) describes the phenomena as “strategic competition”; the British National Security Capability Review (2018) calls it as “wider state competition” and the US National Security Strategy defines it as “major power competition”. See: “Defence Strategic Update”, Department of Defence (Australia), July 2020, [https://www.defence.gov.au/StrategicUpdate-2020/docs/2020\\_Defence\\_Strategic\\_Update.pdf](https://www.defence.gov.au/StrategicUpdate-2020/docs/2020_Defence_Strategic_Update.pdf), 11; “National Security Capability Review”, Cabinet Office (UK), March 2018, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/705347/6.4391\\_CO\\_National-Security-Review\\_web.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/705347/6.4391_CO_National-Security-Review_web.pdf), 5; and “National Security Strategy of the United States of America”, The White House (US), December 2017, <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>, 27.

183 Nicholas Carter, “Dynamic Security Threats and the British Army”, Royal United Services Institute, 22 January 2018, <https://rusi.org/event/dynamic-security-threats-and-british-army>.

184 Ibid.

185 “Global Warming of 1.5°C”, Intergovernmental Panel on Climate Change, accessed 17 July 2020, [https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15\\_Hheadline-statements.pdf](https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Hheadline-statements.pdf).

(WAIS), with the Amundsen Sea Embayment Section most vulnerable to collapse.<sup>186</sup> The East Antarctic Ice Sheet (EAIS), meanwhile, is likely to experience ice gain, with higher temperatures potentially leading to increased snowfall.<sup>187</sup> In addition, methane has begun to leak from the sea floor, and microbes, which usually consume the gas before it reaches the atmosphere, have been slow to develop owing to temperatures rising. The release of methane from frozen underwater stores, or from permafrost, is seen by scientists as a key “tipping point” beyond which the increase in temperature becomes unstoppable.<sup>188</sup>

As the climate scientist Steve Rintoul and his colleagues outlined in a 2018 paper for the journal *Nature*, Antarctica is at an impasse, with climate governance and regulation deciding the future of the continent.<sup>189</sup> Their study outlined two futures for Antarctica by 2070: one scenario where “no meaningful action was taken to mitigate greenhouse gas emissions” and one where “aggressive measures were taken to limit emissions, restrict global warming, and increase resilience” (see Figure 1 below). Thus, as with geopolitical competition, 2020 should be seen as a baseline, rather than the pivot of a scale. Short of some technological breakthrough, it seems likely that climate change will continue to worsen, rather than improve over the next 30 years.

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186 “Climate Change: Past and Future”, British Antarctic Survey, accessed 17 July 2020, <https://discoveringantarctica.org.uk/oceans-atmosphere-landscape/atmosphere-weather-and-climate/climate-change-past-and-future/>.

187 *Ibid.*

188 Damian Carrington, “First active leak of sea-bed methane discovered in Antarctica”, *The Guardian*, 22 July 2020, <https://www.theguardian.com/environment/2020/jul/22/first-active-leak-of-sea-bed-methane-discovered-in-antarctica>.

189 S. R. Rintoul, et al. “Choosing the future of Antarctica”, *Nature* 558, 233–241 (2018), <https://doi.org/10.1038/s41586-018-0173-4>.

Figure 1 | THE TWO FUTURES OF ANTARCTICA

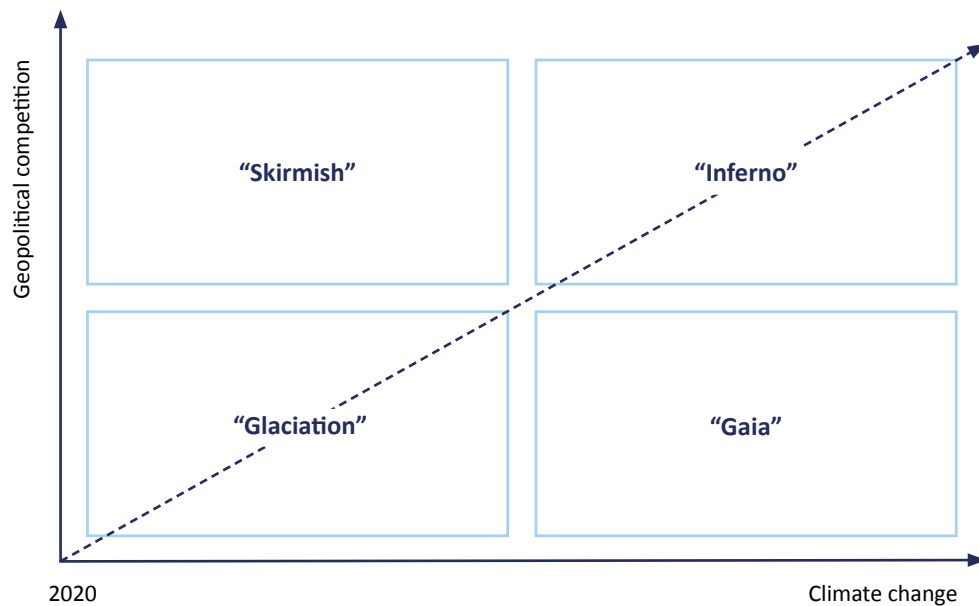
NO MEANINGFUL ACTION TAKEN	AGGRESSIVE MEASURES IMPLEMENTED
<ul style="list-style-type: none"> <li>▪ Air temperatures in Antarctica warmed by 3° Celsius leading to surface melt in summer.</li> <li>▪ Warmer ocean waters drove higher rates of basal melt, ultimately leading to the runaway retreat of glaciers.</li> <li>▪ Surface melt catalysed the collapse of several ice shelves, exposing new ice-free areas to be colonised by native and introduced plants.</li> <li>▪ The expansion of native plants and introduction of new plants led to a loss of suitable nesting areas for penguins and other birds.</li> <li>▪ The chemistry of surface waters changed to become corrosive to shells and biological structures.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Surface air and sea temperatures warmed by less than 1° Celsius.</li> <li>▪ While some ice shelves in the Antarctic Peninsula and Amundsen Sea were lost, thinning rates in the large ice shelves remained fairly steady.</li> <li>▪ The rate of ice loss was much less than worst-case projections with Thwaites Glacier re-stabilising and saving the WAIS from further decay.</li> <li>▪ None of the world’s most invasive species were established as the climate remained largely inhospitable.</li> <li>▪ Trends observed in temperature, salinity, and circulation of the Southern Ocean ultimately reversed by 2050.</li> </ul>

There are, of course, multiple other trends that will influence, even “drive”, the future of the Antarctic, including technological advances, global disruptions, and levels of public concern and interest, and these are interdependent, with a change in one affecting changes in others. But these trends, at least from the vantage point of 2020, are harder to identify and predict than climate change and geopolitical competition.

### 3.2 ANTARCTIC SCENARIOS (2020–2050)

Four scenarios have been constructed for the Southern Hemisphere and Antarctica to cover a 30-year timeframe, i.e., 2020–2050. The scenarios are developed using a matrix based on the two anticipated strategic trends: accelerating climate change and increasing geopolitical competition (see Figure 2). In keeping with the likelihood of the two dominant trends, the matrix assumes their continuation from 2020 levels, and does not allow for their reversal. The greatest unpredictability – and risk – is assumed to occur where geopolitical competition and climate change are at their most intense.

Figure 2 | FUTURES IN THE SOUTHERN HEMISPHERE



From this matrix follows four scenarios:

1. **"Glaciation"** supposes that climate change will continue at the rate of current projections (a mean temperature increase of around 1.5°C) and global competition will continue at the current level, with geopolitical competition being constrained close to 2020 levels.
2. **"Skirmish"** supposes that climate change will continue at the rate of current projections (a mean temperature increase of around 1.5°C) but that global competition will increase from 2020 levels and this will have an impact on Antarctica, leading to possible destabilisation of the ATS.
3. **"Gaia"** supposes that climate change will increase beyond the rate of current projections (a mean temperature increase of around 2°C) but that the major powers manage to "ring fence" Antarctica from competition from elsewhere in the world.
4. **"Inferno"** supposes that climate change will increase beyond the rate of current projections (a mean temperature increase of around 2°C) and that global competition will increase substantially from the 2020 level, with severe consequences for the broader Southern Hemisphere.



### 3.2.1 Glaciation (projected climate change, sustained competition)

The geopolitical competition anticipated in the early 2020s – in part a consequence of China’s “wolf warrior” diplomacy in the aftermath of the Covid-19 pandemic – did not intensify as quickly as anticipated. This was to no small extent due to the economic crisis that hit China in the mid-2020s – an outcome of an uneven and ageing population and economic efforts by the new D-10 group of democracies to undermine China’s industrial ascendancy. In fact, insofar as China had been starved of the resources needed to push forward with the development of a global posture, its ability to pursue a foreign policy fit for a superpower was heavily, though not completely, constrained.

Irrespective of the “Chinese malaise”, climate change continued to accelerate, but at the lower end (1.5°C) of predictions, rather than the higher (2°C). Although India underwent a phenomenal industrialisation in the 2020s, it was more environmentally conscious, a consequence of assistance received from other D-10 members. This drove existing patterns of change, including the redrawing of ice locations and general meteorological unpredictability. During the 2030s, the conditions for human presence in Antarctica declined, with an increased risk to ships, bases, and equipment. Because of this, scientific research became more expensive to conduct, little more than the refuge of the rich, both for state and non-state actors.

Under these circumstances, countries consequential to Antarctica continued to support existing governance arrangements, with the long-term emphasis on environmental preservation and scientific research remaining as priorities for governments. Marine resource exploitation continued in a sustainable manner, but efforts to establish MPAs were consistently stymied.

In 2050, the ATS remained in place, with countries fully committed to its various components as well as to other aspects of governance, including the Antarctic Treaty Secretariat, the ATCM, the CEP, and CCAMLR. In many respects, however, the ATS remains only in name. No substantive decisions have been taken since 2009, and a number of the ATS’s core interests have been increasingly dealt with by other organisations; witness the development of the Polar Code by the International Maritime Organization (IMO), which entered into force in 2017.

While a ban on military activity remains, military support and supply – for science, and search and rescue, for example – has become widespread and is widely accepted. What some described as the “militarisation of Antarctica” reflects increasing geopolitical pressures globally, with the standoff between the US and China now decades old. At the same time, newer global actors, in particular Brazil and India, have begun to assert regional ambitions.

Despite a generally cooperative atmosphere in the Antarctic, there have been a few flare-ups. In the 2020s, China’s building of large numbers of “scientific research bases” in strategically important locations raised a few eyebrows, as did Russia’s blatant basing of military personnel with scientific cover in order to carry out exercises – so-called “little white men”. But the increasing commercialisation of the continent, visible most clearly in the number of ships undertaking seismic surveys and the sharp rise in the number of tourists from China, has helped to keep these flare-ups in check.

The Madrid Protocol, which prohibits mineral and petroleum extraction, came under increasing pressure during the 2030s, but it remained in place. This is partly because environmental non-governmental organisations (NGOs) were successful in their efforts both to keep Antarctica at the centre of the world’s attention and to keep this attention focused on environmental preservation. It is also because, although seismic surveys established the existence of hydrocarbon reserves in Antarctic waters in the mid-2020s, the downturn in global gas and oil prices – which

began in 2020 as a result of Covid-19 – continued into the early 2030s, meaning that it was not economically viable to exploit them.

In all, geopolitics in Antarctica is “glacified”, little different in 2050 to what it was thirty years before.

### 3.2.2 Skirmish (projected climate change, elevated competition)

In light of China’s response to the Covid-19 pandemic and clampdown in Hong Kong, the early 2020s saw a dramatic uptick in geopolitical competition. 2024 was the key year: in January, China withdrew from the United Nations Convention on the Law of the Sea (UNCLOS), citing its “historic rights” in the South China Sea, over which it swiftly asserted a “special privilege”; in April, Russia annexed Transnistria in Moldova, citing the “threat” posed by the election of a democratic reformer; and in November, the American people elected an even more isolationist and transactional president than in 2016. For their differing reasons, Beijing, Moscow and Washington looked at the rules-based international system as an irrelevant and out-dated concept.

The Antarctic was not immune to the growing tension. By the late 2020s, while most countries consequential to Antarctica continued to support existing governance arrangements, there was a broad agreement that the ATS was no longer fit for purpose – and, besides, had been overtaken by other institutions, such as the IMO and United Nations. During the previous decade, environmental preservation and scientific research had given way in importance as countries sought to compete with one another – Antarctica being another stage for the pursuit of their national interests on the global stage. The intensification of this competition meant that the consensus – always strained – over the future of the ATS broke down.

By the early 2030s, the gloves had come off. Led primarily by Russia, but supported by China, Argentina and others, Antarctica came to be seen increasingly as a resource base. By this time, governments were acting independently of the ATS, unilaterally exploiting the seas (particularly krill and fish) and otherwise taking advantage of commercial opportunities, including supporting private ventures and privately owned facilities. No longer a priority for countries, environmental standards in the region fell, and although NGOs continued to protest against Antarctic exploitation, their voice was increasingly dismissed and unheeded. By and large, public interest in Antarctica’s intrinsic environmental value had decreased, with public awareness focused increasingly on national commercial benefit.

With the ATS side-tracked, the framework for international collaboration in Antarctica had all but collapsed by the mid-2030s. Long-term suspicions that countries had used “scientific activities” as a mirage for militarising the continent and installing dual-use capabilities come to fruition and, as a result, scientific collaboration ground to a halt, except between the closest of allies (such as Chile, Australia, New Zealand, France, Norway and the UK). SCAR came to exist only in name. The CEP and CCAMLR were simply bypassed in the decision-making process.

As science became more nationalist and competitive – following Russia’s argument in the late 2030s that its scientific “activities” were sufficient proof to validate the Kremlin’s claims to “extended sovereignty” in the Arctic, even if the established territorial claimants’ scientific activities did not – research focused increasingly on dual-use technology. In 2045, China went further still and declared a 200 km “exclusion zone” around each of its research stations, which had become so numerous in some areas of the Antarctic that large areas were effectively closed off. Beijing announced it would use force to expel unpermitted visitors.

At the same time, a number of new countries appeared in Antarctica and began to “flex their muscles”. In the case of Turkey, for example, this had begun as early as 2018 when a “National Polar Science Program and Strategy” was announced by Ankara. At the time, many commentators had understood this as a primarily domestically driven initiative, enabling Recep Tayyip Erdogan to generate nationalist support for his political cause. But it slowly became apparent, from the early 2020s onwards, that there was more to it, and that Turkey was using the Antarctic to position itself as an increasingly important player in international affairs.

Throughout the late 2040s, reduced cooperation led not only to mutual suspicion, but also low-level “skirmishes”. These increasingly involved armed semi-autonomous and autonomous surveillance systems, as China and Russia sought to protect their territorial claims, formal or otherwise, from intruders.

### 3.2.3 Gaia (elevated climate change, sustained competition)

Despite sustained competition among the major powers elsewhere in the world, they agreed to “ring fence” the Antarctic from their struggles. The sheer extent of the global climate emergency, fanned by a new generation of more environmentally conscious people reaching positions of influence during the 2020s and early 2030s, forced governments to act, irrespective of their wider geopolitical concerns. Moreover, the acceleration of the so-called “fourth industrial revolution” in the UK, US, Japan and South Korea during the mid-2020s, which led to a number of technological breakthroughs, including fusion power, magnesium batteries, and nano-insulation, came at just the right time to ensure that the mean global temperature did not exceed the higher end of current projections, i.e., a rise of more than 2°C. With the technological race now on, most countries’ began to compete increasingly through scientific and technological, rather than geopolitical, agendas.

Such were the impacts of climate change, though, that technological advances could only mediate their worst excesses, rather than overcome them entirely. The increasing temperature led to the warming and rapid redrawing of ice locations, with the loss of ice in some locations and the gain of ice in others. Sudden, intense storms were the most visible manifestation of the general unpredictability that beset Antarctica from the early 2030s onwards. This increased the risk to all air-, land-, and ship- based activities.

The major powers redoubled their support for the ATS in the Southern Hemisphere during the 2030s, realising that it was the only way to uphold effective Antarctic governance and allow them to push ahead with the technological race. With global recognition of the importance of Antarctica to weather systems, most obviously the Gulf Stream System, and with the continent affected more acutely than anywhere else by climate change, the atmosphere in Antarctica became increasingly cooperative. For governments, particularly those of the leading Antarctic powers, minimum environmental impact and increased scientific cooperation had become their key priorities.

China’s emergence as a fully “developed” economy in the early 2030s and the even more rapid – but less environmentally-damaging – industrialisation of Brazil, India and Indonesia led to a renewed interest in Antarctica. During the mid-2030s, the Antarctic had become host to increasing non-scientific human activity, not least tourism. By 2040, more than one million visitors

descended to the “Deep South” annually (up from 56,168 in 2019<sup>190</sup>), with large fusion-powered cruise ships (holding up to 6,000 passengers each) regularly transiting to and from the hotels which had been constructed on the Antarctic Peninsula and the surrounding islands. Although this influx initially forced discussions on sustainability, an agreement was eventually reached to cap numbers at 1.5 million in 2045, after a concerted campaign involving the International Association of Antarctic Tour Operators (IAATO), which, responding to consumer pressure, sought to uphold and promote environmentally-sustainable tourism to the continent.

Alongside tourism, marine exploitation also expanded on broadly sustainable terms, with diversification into marine bioprospecting and aquaculture. The CEP established a stronger role in regulating the activities of commercial operators, and the Council of Managers of National Antarctic Programmes (COMNAP) started to focus on providing education and training for new, more commercially oriented operators, and coordinating safety management and search and rescue. Environmental NGOs continued to insist, however, that no commercial activities could be sustainable in the Antarctic. The influence of such NGOs varied from country to country, with those in the West having most influence over decision- and policy-makers and those elsewhere being largely ignored.

Initially, this created additional tensions between ATS members, but these were mediated – largely, if not wholly, successfully – by the increasing opportunities for international scientific cooperation. Such cooperation focused on technology development and testing to support responsible exploitation. In 2045, SCAR expanded its scientific objectives to include research into sustainable technologies for high-latitude resource exploration and exploitation. Through active, collaborative decision-making, the interests and attitudes of countries consequential to the region became characterised by a utilitarian approach.

### 3.2.4 Inferno (elevated climate change, elevated competition)

The inward-looking and self-absorbed governments that ruled many of the leading democracies during the 2020s proved largely ineffective at combating the revisionism of China, Russia, and their allies. By the early 2030s, the ATS – which had been in steady decline for much of the previous decade as a result of being overtaken by other institutions, and decreased political and financial investment in science – was of only marginal importance.

First, science, once seen as a way to bind countries together even when times get tough, came to be seen increasingly through the lens of nationalism; something not helped by both Beijing’s and Moscow’s decisions to use “science” to justify the militarisation of Antarctica through dual-use capabilities. To be fair, scientific research remained the stated primary interest of most governments, but the SCAR was so weakened in the 2020s and 2030s that it lost the ability to facilitate international research. As competition increased, environmental concerns were simply side-tracked.

Second, environmental NGOs continued to advocate for conservation of the last great wilderness throughout the 2030s, but gained little traction with governments, while the public’s reduced awareness of Antarctic issues resulted in the media losing interest in the Southern Hemisphere, meaning that any political commitment to the region became largely symbolic.

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190 “Tourism in Antarctica, 2019”, International Association of Antarctica Tour Operators, 2020, [https://iaato.org/wp-content/uploads/2020/04/Tourism\\_in\\_Antarctica\\_2019.pdf](https://iaato.org/wp-content/uploads/2020/04/Tourism_in_Antarctica_2019.pdf), 4.

Not only did countries fail to reach consensus on key policy matters (such as the establishment of MPA), they also failed to bring into effect key decisions (for example, the Liability Annex to the Protocol). These failures set the scene for the broader breakdown in the ATS during the early 2030s. ATCMs which were once held annually began to be held biennially. But it then became apparent that some countries were simply paying lip service to the few agreements reached; it was still the case that no substantive decision had been taken since 2009. With a weak ATS, other international bodies (for example, the IMO, UNCLOS and Convention on Biological Diversity) became more proactively involved in regional affairs. But then the rules-based international system itself started to fall apart.

In the late 2030s, the Southern Hemisphere was drawn steadily back into the global consciousness, not least due to the intensifying geopolitical competition brought about by the division of much of the world in 2038 into two blocs: the Indo-Pacific Defence Initiative and the Shanghai Cooperation Organisation (SCO).

While it had begun in the early 2030s with China's cultivation of two "tentacles" of client states stretching from the Philippines down to the South Pacific, in which it opened military facilities, it was not until the mid-2030s that Antarctica was incorporated into the broader global struggle. Seeing an opportunity to give the US and UK a bloody nose in the South Atlantic and to distract them from their growing build-up in the Indo-Pacific, China moved to claim the remaining unclaimed land in Antarctica – Marie Byrd Land – as well as a large tract of New Zealand's Ross Land and much of the Antarctic Peninsula. The network of friendly client states in the South Pacific now provided China with a direct link – a series of "stepping stones" – to Antarctica, where it had already established a formidable presence.

At first, Western politicians discounted the move, which they likened to China's stalled attempts to transform the South and East China seas into a "maritime empire". But as a pre-agreed secret agreement between China and Argentina from 2030 became apparent, they scrambled to respond. Argentina, under a staunchly nationalist government, had agreed to cede its Antarctic claims to China in exchange for Chinese assistance in recovering "Islas Malvinas" – always the centrepiece of Argentine nationalism – from the UK. Despite some disagreements, Chinese-Argentine relations had been improving ever since President Cristina Fernández de Kirchner agreed to allow China to open a military space base in Patagonia in 2014, over which the Argentine government had little control.

Chile, angered by China's and Argentina's actions, which overlapped with its own claim to Antarctica, dating back to 1940, opened consultations with the other established claimants (the UK, New Zealand, Australia, Norway, and France) and the US. The British sent naval and air reinforcements to the Falkland Islands, South Georgia and the Antarctic to deter aggression. The world looked on as a distant region, once thought an unlikely chessboard for global geopolitics, looked set to become the stage for an inferno.







# CONCLUSION

## 4. CONCLUSION

The four scenarios for the future of the Southern Hemisphere and Antarctica over the next thirty years (i.e., 2020-2050) presented in this study are intended to stimulate discussions rather than provide predictions. The two mega-trends identified in the third section of the report – geopolitical competition and climate change – seem likely to be the defining processes affecting the region, but much else is unclear. For example, as is evident from the second section, many countries’ postures toward the Antarctic assume an ongoing interest in science. However, if faced with future significant pressures (e.g., economic recession resulting from the Covid-19 pandemic, or long-term drought, or ageing in some European and Asian countries) which result in domestic political tensions, will countries retain this investment in Antarctic science? Moreover, a changing global climate and its consequences for Antarctica’s physical landscape will have significant impacts on the nature of the science that can be undertaken – leaving aside the question of whether it is affordable – in the Southern Hemisphere as a whole.

Beyond the two mega-trends, there are a whole host of other political, economic, social, technological, legal, and environmental trends that will affect – directly or indirectly – developments in and on Antarctica.

While so much is uncertain, one thing appears clear: a number of countries are positioning themselves for a day when the ATS may no longer apply, whether because the System “breaks” or – more likely – ceases to be relevant. The ATS has not agreed a major binding protocol since 2009, and a number of the ATS’s core interests are increasingly dealt with by other organisations; most obviously, the Polar Code, which provides a binding international framework to protect the Antarctic and Arctic from maritime risks, was developed by the IMO. As a result, Antarctica’s traditional mechanisms of governance are coming under pressure.

All of this is occurring at the same time that Antarctica is moving to the centre of global affairs – whether because of climate change or geopolitical competition, or both. True, the continent remains characterised more by cooperation than confrontation, science is still the driving force behind countries’ engagement, and environmental concerns are paramount. But, from the current vantage point, it is no longer the case that the continent’s remoteness, or the operational or technical difficulties associated with being active there, offers the protection that they once did. Commercial, resource-driven, and strategic activities look set to characterise Antarctica in the short- to medium- term.

Indeed, China, in particular, has increased its presence markedly over recent decades in line with its ambition to become a “Polar Great Power”. Although it only signed the Antarctic Treaty in 1983 and thus is a relative “latecomer” to the continent, it has invested heavily in research and development on the continent, and has overtaken more established powers like Australia and the US. Beijing has built four Antarctic stations in 30 years, and a fifth station that will be operable in 2022. As Beijing’s intentions are unclear and as it pursues an increasingly assertive foreign policy, a number of countries are suspicious of China’s intentions towards and in Antarctica.

As elsewhere, the interests between the established powers and the expanding powers of the twenty-first century appear to be in tension, with the latter believing that the ATS is weighted against their national interests. As Alan Hemmings suggests:

Can we not expect Brazil, China and India et al. to wish to see something of them in the future system of governance of one tenth of the planet? Surely they will not continue to tolerate the substantially second-tier status they presently get, notwithstanding formally being in the first-tier of Antarctic membership. As the gap between the historic predicates of the Antarctic regime and contemporary real-world power widens, not making the regime responsive to the present may be fatal for it.<sup>191</sup>

That said, with the exception of China, most of the Antarctic newcomers still trail behind the “established” powers, particularly Chile, Argentina, the UK and US. Nevertheless, a belief that the ATS increasingly “has the air of an antiquated gentleman’s club” is a view shared even by some of the established powers. Many voice concerns privately – if not publicly – that the ATS needs a new vision in order to maintain relevance, be more responsive to new pressures, and remain consensus-based.

For Chile, Antarctica has been a key territory in the national imagination since the early 20th century, a fact compounded when President Gabriel Gonzalez Videla became the first head of state to visit the continent in the midst of the first Chilean Antarctic Expedition (1947-1948). As the country attempts to reposition itself as a regional power facing into the Indo-Pacific in the twenty-first century, it is clear that its posture toward Antarctica and its goals there are in greater harmony with those of Australia, New Zealand, and the UK, than with others. And while Chile seeks to become a “bridge country” to the Antarctic, it is important that it does not inadvertently empower revisionist powers that may – in the longer term – be antithetical to the country’s Antarctic position and interests, as well as those of its allies and partners.

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191 Alan D. Hemmings, “Antarctic politics in a transforming global geopolitics”, in *Handbook on the Politics of Antarctica*, ed. Klaus Dodds et al. (Cheltenham: Edward Elgar, 2017), 517.





The Chilean Navy's new icebreaker under construction by ASMAR Shipbuilding and Ship Repair Company is based on the Vard 9 203 platform, which is designed to Lloyd's Register PC 5 polar-class notation.

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