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# Resurgent geopolitics in Antarctica: the nexus between science and diplomacy in Antarctic policy making

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## Abbreviations

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| **AT** | ***Antarctic Treaty 1959*** |
| **AAD** | **Australian Antarctic Division** |
| **AAT** | **Australian Antarctic Territory** |
| **ATCM** | **Antarctic Treaty Consultative Meeting** |
| **ATS** | **Antarctic Treaty System** |
| **CCAMLR** | ***Convention on the Conservation of Antarctic Marine Living Resources*** |
| **CEP** | ***Protocol on Environmental Protection to the Antarctic Treaty of 1 December 1959*** **(also known as the Madrid Protocol)** |
| **IGY** | **International Geophysical Year 1957–58** |
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All hyperlinks in this paper are correct as at April 2021

## Introduction

Australia lays claim to 42 per cent of Antarctica, the fifth largest continent on Earth. This unrecognised claim is one of seven that sit in competition with those of the United States and Russia who reserve a right to claim the whole continent. If resolved, these claims would give rise to the world's largest external territories—enough land and resources to attract ongoing geopolitical competition.

Historically, territorial claims and the proposed exploitation of resources are the bedrocks of Antarctic geopolitics. However, the *Antarctic Treaty 1959* sets these aside. Under the treaty system, claims are suspended, living resources and the environment they depend on are protected and mining is banned. Scientific programs are allowed because treaty members need them to establish the bona fides of their presence in Antarctica. As a result, scientific cooperation is an important common interest linking superpowers, emerging global powers and developing countries on the floor of Antarctic Treaty Consultative Meetings.

This science and diplomacy nexus is coming under pressure. Some parties are using scientific activities to compete inside the Antarctic Treaty System. These developments reflect a trend where global competitors such as the United States and China are decoupling science and technology cooperation. This paper draws on the resources of the Australian Parliament, made available through the Parliamentary Library Summer Research Scholarship 2020, to look at how scientific cooperation is faring as a result of these developments. The author acknowledges the scholarship as allowing a privileged insight into this aspect of Antarctic policy making from an Australian perspective.

## The nexus between science and diplomacy in Antarctica

Antarctica is the world's largest wilderness, hosting transitory human habitation in the name of discovery since the seventeenth century when it drew European powers south in a competition for territory and a global search for resources.[1] Sovereign ambitions and geopolitical interest in Antarctica date from that era.

An international quest for scientific knowledge accompanied the race to claim the seventh continent.[2] This brought scientific and political interests into close proximity. This connection has anchored a long-standing science and diplomacy nexus in Antarctic policy making.

Scientists took part in many discovery expeditions. They observed Antarctica's geological profile and collected samples which, on their return, fuelled speculation about mineral deposits and petroleum reserves.[3] While these resources have never been exploited, research into them has always been an incentive for maintaining links between scientific activities and Antarctic politics.

Expeditions fostered commercial exploitation of whales, seals and eggs on an extinction-level scale.[4] Over time, unregulated harvesting drove aquatic mammals to the brink and fish stocks into decline.[5] Distaste for this excess eventually prompted political advocacy to protect living resources under an international regime that culminated in support for conservation to be part of the *Antarctic Treaty* negotiated in 1959.[6] Despite global calls for moderation, industries based on Antarctic living resources furnished Britain, Japan, Norway, Russia and the United States with returns sufficient for these governments to exert diplomatic efforts to preserve access to them. Thus, in addition to the above-noted science and diplomacy connection, unrequited resource expectations have long underpinned another nexus between sovereignty and economic interests in Antarctic politics. These two aspects intertwine in the operation of the Antarctic Treaty System today.

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1. Captain James Cook, A Voyage Towards the South Pole and Round the World Performed in His Majesty's Ships 'The Resolution' and 'The Adventure' in the Years 1722, 1773, 1774 and 1775, Vol. 1, 2nd edn, W Strahan and T Cadell, London, 1777, pp. xix–xx.
2. Ibid.
3. G Triggs, 'Australian sovereignty in Antarctica', Pt. 2, *Melbourne University Law Review*, 13(3), 1982, pp. 302–304.
4. Ibid.
5. Ibid.
6. A Jackson, 'Antarctica without borders', *Australian Antarctic Magazine*, 22, Mawson centenary special issue, 2012, pp. 27–28; 'Conservation at CCAMLR: Understanding Article II of the Convention on the Conservation of Antarctic Marine Living Resources', report by the Delegations of Australia and the United States, Commission for the Conservation of Antarctic Marine Living Resources, Hobart, 17—28 October 2016.

From the outset of Antarctic diplomacy, claiming territory, scientific exploration and resource speculation progressed hand in hand albeit slowly. Extreme weather and the limits of transport and logistics technology curtailed the human advance on the continent until the mid-twentieth century. Then, as the Cold War peaked, rivalry between Britain, Chile and Argentina over the Antarctic Peninsula, and strategic competition between the United States and the Soviet Union over nuclear control of the global south, made it imperative to negotiate a treaty to de-escalate geopolitical conflict over sovereignty.[7]

### *Antarctic Treaty 1959*

The *Antarctic Treaty* (the treaty) was negotiated between the 12 countries whose scientists had been active in and around Antarctica during the International Geophysical Year of 1957-58.[8] Scientists were there to collaborate on research into the earth and its systems. Their multinational efforts delivered scientific advances on a scale that one country operating alone could not replicate.[9] Then, and now, this kind of cooperation is synonymous with the treaty and its operations.

The *Antarctic Treaty* was signed in Washington on 1 December 1959 by Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the United Kingdom, the United States and the Soviet Union.[10] It entered into force on 23 June 1961. Since then, another 42 nations have acceded to the treaty, increasing the total number of parties to 54.[11]

## Scientific cooperation

### *Antarctic diplomacy*

Three significant political currents in international affairs surrounded the diplomacy of Antarctic treaty making. First, contested Antarctic geopolitics was a trigger point in Cold War tensions between the then Soviet Union and the United States. Nuclear disarmament was paramount and it was translated into the first objective of the treaty—peaceful use. Peaceful use of Antarctica is geopolitical constraint on a continental scale. The treaty achieves this by removing or reducing a number of conflict triggers. It prohibits nuclear weapons and military deployments, and mitigates the geopolitical competition associated with territorial claims by suspending them. Instead, the treaty opens the continent to scientific use.

Second, conservation was a global policy issue backed by multinational activism, and conserving Antarctica became a world-wide aspiration. The treaty pre-empted clashes over the Antarctic environment and resources by subsuming resource exploitation under conservation as the second objective.[12] This objective is a brake on economic interests. It constrains parties' extending their reasons for being in Antarctica beyond science.

Third, the success of the multinational research program under the Antarctic arm of the International Geophysical Year 1957–58 gave polar science political leverage on the international stage. The final objective—scientific exploration and knowledge sharing—enshrines the common ground of scientific cooperation that emerged from this undertaking as an apolitical, alternative rationale for Antarctic engagement.[13] Scientific collaboration put 'the interests of all mankind' on an equal footing with sovereignty and resources at the negotiating table. It became a pathway for competing powers to substitute shared scientific activity for territorial competition. The consensus approach to managing Antarctic affairs owes its start to this kind of science-led diplomacy.

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7. Department of Agriculture, Water and the Environment, Australian Antarctic Division (AAD), 'History of the Antarctic Treaty', AAD website, last updated 11 April 2016.
8. British Antarctic Survey (BAS), 'How was the Antarctic Treaty formed?', BAS website, n.d.
9. Encyclopedia of Australian Science, 'International Geophysical Year (1957-1958)', last modified 24 April 2012.
10. Secretariat of the Antarctic Treaty (SAT), 'The Antarctic Treaty', SAT website, n.d.; *Antarctic Treaty 1959*, done in Washington, 1 December 1959, [1961] ATS 12 (entered into force 23 June 1961).
11. SAT, 'Parties', SAT website, n.d.
12. Conservation at CCAMLR: Understanding Article II of the Convention on the Conservation of Antarctic Marine Living Resources, Proposal by the Delegations of Australia and the United States, CCAMLR-XXXV, Hobart, Australia, 17-28 October 2016, https://www.ccamlr.org/en/ccamlr-xxxv/bg/28.
13. Jackson, 'Antarctica without borders', op. cit.

The *Antarctic Treaty* establishes a political region from 60° south latitude down to the South Pole.[14] Regional governance features science-led diplomacy and traditional diplomacy on an equal footing. The treaty preamble positions international scientific cooperation as a foundation for defining parties' intentions towards Antarctica, an approach for which Article X provides a diplomatic backstop. The latter binds parties to 'exert appropriate efforts, consistent with the *Charter of the United Nations*, to the end that no one engages in any activity in Antarctica contrary to the principles or purposes of the present Treaty.[15] As science is the only activity treaty parties have legitimised, this arrangement places scientific cooperation at the forefront of Antarctic governance.

## *Consensus building and scientific norms*

Article IV creates a unique political operating context within the treaty area. It is the article for which the treaty is renowned. Article IV freezes territorial claims across the southern continental zone, achieved by controlling the legal positions between the parties that sign up to it without using borders to divide the landmass.[16] By virtue of Article IV, the treaty provides access everywhere without recognising sovereignty and places conditions on that access by restricting activities to scientific research and exchange.

Within the treaty area, the nexus between scientific activities and traditional diplomacy relies on a norm that Antarctica is a continent 'dedicated to peace and science'.[17] Antarctic diplomacy emphasises scientific activities as the main grounds for consensus building in the space created, where Article X discourages statecraft in pursuit of national ambitions by traditional means. Treaty parties put this norm into practice as part of consensus law making in the Antarctic Treaty System.[18]

As a result, parties publicly recognise international scientific cooperation as a common rather than competing interest. Over the last sixty years, they have come to rely on building consensus around scientific activities as a measure of consistency in treaty interpretation. Such consistency has become the anchor for scientific cooperation in Antarctic policy-making. It allows contestation over territory to take a back seat, and diplomats to use scientific activities to balance the strategic and national ambitions governments espouse in their foreign policy and Antarctic plans with year-to-year activities on the ground. Lately however, science-based consensus building seems to have been coming under pressure from resurgent geopolitics as emerging global powers such as China abandon this practice in pursuit of greater national status and presence in Antarctic decision-making.[19]

## *Decision making*

Instead of apportioning jurisdiction over land, sea and resources, the Antarctic Treaty confers on consultative parties the ability to make decisions about the continent and its assets. The 12 signatories became the original 12 consultative parties and decision makers. To join them, other countries must accede to the treaty and comply with Article IX.2 which grants decision making status for so long as 'a party demonstrates interest in Antarctica by conducting substantial research activity there'.[20] This institutional requirement positions science as a leveller in Antarctic policy making, an influence enhanced by the discipline's requirements for objectivity and evidence. In Antarctic diplomacy, science as a permanent adjunct to traditional diplomacy offers decision-makers evidence-based options alongside the positions parties craft to protect or pursue their national interests.

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14. Scientific Committee on Antarctic Research (SCAR), 'The Antarctic Treaty System', SCAR website, n.d.
15. *Antarctic Treaty 1959*, Preamble; *Antarctic Treaty 1959*, Article X; *The Antarctic Treaty, Report of the First Special Consultative Meeting held at London 25, 27 and 29 July 1977 and Recommendations of the Ninth Consultative Meeting held at London 19 September–7 October 1977*, London, Her Majesty's Stationery Office, May 1979, Cmnd 7542.
16. G Triggs, 'Australian Sovereignty in Antarctica', Part 1, *Melbourne University Law Review*, 13(2), December 1981, p. 158; MJ Peterson, *Managing the frozen south: the creation and evolution of the Antarctic Treaty System*, University of California Press, Berkeley, Los Angeles, 1988, pp. 50, 67.
17. National Science Foundation (NSF), 'The Antarctic Treaty', NSF website, n.d.
18. A Bergin and T Press, *Eyes wide open: managing the Australia-China Antarctic Relationship*, special report, Australian Strategic Policy Institute, Canberra, April 2020.
19. Ibid.
20. Secretariat of the Antarctic Treaty (SAT), 'Parties', SAT website, n.d.

### *Treaty membership*

Treaty membership is sponsored by invitation. All consultative parties must then agree to admit new members which preserves the function of traditional diplomacy as the final say. The research activity threshold ties activities in the name of science in with those conducted for diplomatic reasons.

Meeting the threshold is not a one-off requirement. The minimum prescribed activity is the establishment of a scientific station or despatch of a scientific expedition.[21] Parties typically demonstrate ongoing interest by conducting annual science programs or collaborating with other nations active in Antarctic research, which reinforces the Antarctic Treaty System as a cooperative arena.[22]

Annual Antarctic Treaty Consultative Meetings are standing diplomatic conferences run on formal lines to administer the treaty and its scientific programs. Meetings host 29 decision makers, the 12 original signatories and 17 acceding nations that have been recognised against the research threshold test and admitted by the consultative cohort.[23] The other 25 non-consultative parties—acceding nations yet to attain the threshold—are invited to attend but not to participate in decision-making. As observers, non-consultative parties are privy nonetheless to meeting agendas and science-led diplomacy as it unfolds.[24]

Treaty membership is a trace history of scientific outreach between global powers using Antarctic connections as a bridge during periods of otherwise tense international relations.[25] The membership profile is an uncommon mix of superpowers and emerging and developing powers. Meetings are diplomatic forums where parties connect global, national and Antarctic-specific interests using scientific activity as a means to engage across all these levels.

There is a chronology of cooperation between past and present allies, and competing powers such as the United States, Russia and China. Previous examples of cooperation include the United States and Russia, and Australia and China. The United States and Russia hosted scientists at each other's Antarctic bases while they faced off during the Cold War.[26] In the same era Australia reached out to China to open avenues of communication not available via diplomatic channels under the auspices of Antarctic scientific collaboration. The Australian Antarctic Division opened its research programs to Chinese participation from the mid-1970s. This enabled China—not an original signatory—to reach the research activity threshold by 1983.[27] Australia went on to sponsor the invitation from the Antarctic Treaty Consultative Meeting to China to seek full treaty membership, and voted at the Sixth Special Antarctic Treaty Consultative Meeting in 1985 to affirm China's decision-making status.[28]

## Scientific cooperation vs competition

Stamped with success at the geopolitical level, scientific cooperation has developed a signature of its own in Antarctic diplomacy. At Antarctic Treaty Consultative Meetings, diplomacy behind the scenes draws on scientific cooperation as an alternative pathway to preserve operational harmony in the region. In practice, treaty parties rely on cooperation between their science programs to underwrite the diplomatic solution in Article IV.

At the 50th anniversary of the treaty signing in 2009, US Secretary of State Hillary Clinton acknowledged the significance of scientific cooperation, stating 'the treaty is a blueprint for the kind of international cooperation that will be needed more and more to address the challenges of the 21st century, and it is an example of smart power at its best. Governments coming together around a common interest and

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21. Antarctic Treaty 1959, Article IX.2.
22. SCAR, 'The Antarctic Treaty System', op. cit.
23. Consultative parties since 1961: Brazil, Bulgaria, China, Czechia, Ecuador, Finland, Germany, India, Italy, Korea (ROK), Netherlands, Peru, Poland, Spain, Sweden, Ukraine, Uruguay. Secretariat of the Antarctic Treaty, 'Parties', op. cit.
24. Ibid.; NSF, 'The Antarctic Treaty', op. cit.
25. D Belanger, 'The International Geophysical Year in Antarctica: uncommon collaborations, unprecedented returns', *Journal of Government Information*, 30(4), 2004, pp. 482–489.
26. K Pender, 'Red scare on ice: Antarctica, Australian–Soviet relations and the International Geophysical Year', *History Australia*, 14(4), 2017, pp. 645–659.
27. A Bergin and T Press, *Eyes wide open*, op. cit.
28. SAT, *Final Report of the Sixth Special Antarctic Treaty Consultative Meeting*, Brussels, 7 October 1985.

citizens, scientists, and institutions from different countries, joined in scientific collaboration to advance peace and understanding'.[29]

A decade later, in the lead up to the 60th anniversary in 2019, there were clear signs that the science and diplomacy nexus in Antarctic policy making was coming under pressure from resurgent geopolitics. Parties are now, it appears, pushing their Antarctic science programs towards serving geopolitical agendas and national resource ambitions and away from the treaty's collaborative foundation.

A shift from scientific collaboration to competition heralds a shift in the orientation of Antarctic diplomacy and potentially reintroduces a flavour of instability to the sphere. At stake is the well-established treaty norm of 'peaceful exploration' with its emphasis on scientific cooperation, shared knowledge and freedom of access. On the diplomatic horizon, an alternative based on 'peaceful exploitation' is making itself known as consultative parties such as China, with a different set of priorities for Antarctica, venture toward reinterpreting the treaty.[30]

## *Contemporary geopolitical competition*

This shift reflects the broader geopolitical context in which strategic competition between the United States and China is reshaping the international environment. 'The cooperation strategy of the past four decades or more is giving way to a decoupling trend in trade, investment, science, technology, personnel exchanges and other fields. In science and technology in particular, the United States, from the White House and Congress to the Department of Commerce, the State Department and others, is using various means, including legislation and diplomatic pressure, in an attempt to weaken China's institutional advantage in stimulating indigenous innovation. It is predictable that competition between China and the United States in the field of science and technology will become routine and more intense'.[31]

The flow-on effect as these global competitors decouple science and technology has the potential to disrupt the norms and consensus-based arrangements which give scientific cooperation an institutional advantage in the Antarctic Treaty System.[32] Against this backdrop, issues of territory and ambitions to exploit resources are motivators for consultative parties outside the original twelve to assert treaty interpretations better suited to their own national aims in Antarctica. Opportunities to push for alternatives lie ahead as the profile of treaty membership changes. While for now 'countries continue to participate in Antarctic Treaty governance, that has not stopped them jostling for position and preparing for a time when the current arrangements change.'[33]

## *Pressure points*

### Unresolved territorial claims

Territory is a necessary ingredient of sovereignty in international law.[34] Antarctica became stateless when the treaty was ratified and the continent attracts contemporary geopolitical interest because it still does not belong to any state. In their diplomatic postures, countries may elect to consider Antarctic territory as claimed, claimable or unclaimed depending on their history with the continent, while trying not to ruffle the consensus-based approach treaty parties have adopted to keep geopolitical and resource ambitions among themselves in check.

Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom assert territorial claims based on discovery, exploration and commercialisation of living resources.[35] At the time of treaty negotiations, none of these seven had perfected a title sufficient to assure their claims in the face of

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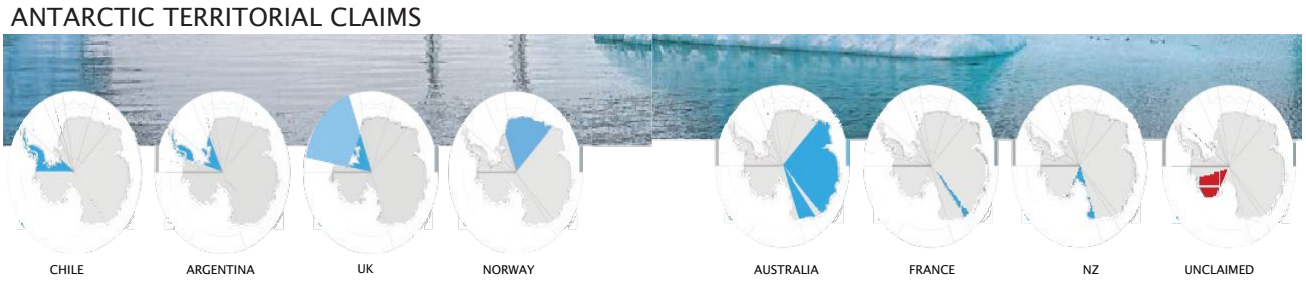
29. HR Clinton, Remarks at the joint session of the Antarctic Treaty Consultative Meeting and the Arctic Council, 50th anniversary of the Antarctic Treaty, Washington, 6 April 2009.
30. Ibid.
31. Z Monan, 'Get prepared for China-US decoupling in science and technology', China-US Focus, 9 September 2019.
32. N Bisley, 'Asia after the pandemic', *The Interpreter*, The Lowy Institute, 8 April 2020.
33. J Gothe-Snape, 'China unchecked in Antarctica', *ABC News*, 12 April 2019.
34. G Triggs, 'Australian sovereignty in Antarctica', Part I, op. cit., p. 123.
35. Department of Agriculture, Water and the Environment, Australian Antarctic Division (AAD), 'Antarctic territorial claims', AAD website, last updated 14 April 2016.

geopolitical competition over Antarctica.[36] This includes Australia's claim to 42 per cent of East Antarctica.[37]

Article IV of the *Antarctic Treaty* preserves these seven claims as they stood when it came into force in 1961. Among other signatories historically active in Antarctica, the United States and Russia reserve a right to claim all or part of Antarctica.[38] Article IV incorporates this position into the diplomatic fabric of the Antarctic Treaty System along with the seven existing claims. The framework also harbours silent positions. Belgium, Germany, Poland, Sweden and South Africa explored Antarctica but had not put forward specific claims prior to the Washington Conference.[39] Article IV shelters these undeclared positions alongside the existing territorial claims and reserved rights.

**Figure 1: Antarctic territorial claims**




Source: F Lewis, 'The coldest, windiest and driest place on Earth: who runs Antarctica?', *Sydney Morning Herald*, (online edition), 29 November 2019.[40]

### Scientific competition for territory

During the International Geophysical Year 1957–58, scientists from around the world worked together despite 'tensions with respect to differences of view over claims and governments' pursuit of strategic interests'.[41] Article II and Article III of the treaty attract less attention but they are just as important as Article IV, Article IX and Article X to Antarctic policy-making. They extend 'freedom of scientific investigation and cooperation towards that end' and 'open exchange of scientific observations and results' to all treaty participants whether or not they are decision makers.[42]

Nations acceding to the treaty after 1961 have no grounds to assert territorial claims along traditional lines. At the negotiating table the treaty founders anticipated future claims and sought to exclude scientific activities from geopolitical bargaining. The treaty staves off new claims under Article IV by preventing countries from defining 'occupation for scientific purposes' as an additional basis to assert, support or deny sovereignty.[43]

On the surface, post-treaty activities intended to promote scientific engagement in Antarctica such as building new scientific bases or expanding national research programs cannot be put to the dual purpose of perfecting, enlarging or supporting new territorial claims.[44] However, the rapid expansion of bases since the treaty came into force—over the last decade by China in particular—is challenging this assumption. The treaty did not resolve the issue of sovereignty and now China reserves the right to make claims there too.[45]

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36. A Kerr, 'Antarctica' in A federation in these seas: an account of the acquisition by Australia of its external territories, Attorney-General's Department, Canberra, 2009, pp. 224–237.
37. G Triggs, 'Australian sovereignty in Antarctica', Part I, op. cit., p. 126.
38. AAD, op. cit.
39. United States Department of State, Bureau of Arms Control, Verification, and Compliance, 'Antarctic Treaty', n.d.
40. F Lewis, 'The coldest, windiest and driest place on Earth: who runs Antarctica?', *Sydney Morning Herald*, (online edition), 29 November 2019.
41. A Jackson, 'Antarctica without borders', op. cit.
42. SAT, 'Science and operations', SAT website, n.d.
43. G Triggs, 'Australian sovereignty in Antarctica', Part I, op. cit., p. 158.
44. Ibid.
45. AM Brady, 'China's polar arms race', *The Australian*, 6 September 2018, p. 11.

### Scientific triggers

The post-treaty record of scientific access to Antarctica includes examples where parties have pre-positioned national interests to be called on if the treaty were to be reviewed or amended. According to one academic, Russia used the pathway of scientific activity to execute post-IGY plans to establish access to 'ice free areas' and 'locations of interest', intent on discovering and securing access to minerals and hydrocarbons.[46] Russian diplomacy at Antarctic Treaty Consultative Meetings conformed with the disclaimer of 'keeping Antarctica as a region of peace, stability and cooperation and preventing the possible emergence of international tensions'.[47] At home, it's stated aim was to build a comprehensive legal basis for a future territorial claim based on 'extensive exploratory, scientific and similar activities spreading from the initial bases in the Australian Antarctic Territory to all other parts of the continent'.[48]

Russia has continued to steadily implement this strategy. It established four bases in the Australian Antarctic Territory during the International Geophysical Year and, in 1958, declared an intention to make them permanent.[49] Two of them, Vostok in the interior and Mirny on the East Antarctic coast, are among the largest installations in Antarctica. Russia has since increased its footprint from four to 10 facilities with three permanent and four seasonal facilities in the Australian Antarctic Territory, one permanent station in Norwegian-claimed Queen Maud Land and another on the Antarctic Peninsula in contested West Antarctica. In 2017, Russia announced it would transform its seasonal base Russkaya in unclaimed Marie Byrd Land into another year-round operating station by 2020.[50] On 23 May 2021, Russia confirmed its plans to recommission Russkaya Station as an initiative of the state space corporation 'Roscosmos'. The upgraded station will host equipment for Russia's GLONASS global satellite tracking system and spacecraft tracking devices.[51]

Contemporary geopolitical players with a footprint of scientific occupation such as China could follow suit with the aim of asserting claims over areas where they cannot otherwise demonstrate compliance with international law which requires a basis of possession, notification of claims, maintenance of authority in the territory sufficient to protect acquired rights, and freedom of commerce and transit.[52] To assert an Antarctic claim without these, the prime movers need to disrupt the norm of scientific cooperation that legitimises everyone's presence under the *Antarctic Treaty*.

### Unclaimed territory

Scientific occupation is a powerful motivator to pursue reinterpretation of the treaty. Fifteen per cent of Antarctica has never been claimed. Establishing a permanent base in this sector gives the host government the appearance of being in the same position as the seven claimants at the time of treaty negotiations. Were the treaty to be reviewed or put aside, the unclaimed sector in the southwest—the fourth largest landmass on the continent comprising 1,610,000 square kilometres—could serve as one pretext for parties to adjust their posture towards scientific cooperation as a diplomatic gatekeeper depending on where Antarctica fits in their contemporary national ambitions and geopolitical agendas.

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46. I Gan, 'Soviet Antarctic plans after the International Geophysical Year: changes in policy', *Polar Record*, 46(3), July 2010, p. 246; C Joyner, 'A comparison of Soviet Arctic and Antarctic politics' in L Brigham (ed), *The Soviet maritime Artic*, Belhaven Press, London, 1991, pp. 284–299.
47. Joint Standing Committee on the National Capital and External Territories, *Inquiry into the Adequacy of Australia's Infrastructure Assets and Capability in Antarctica*, Submission by the Embassy of the Russian Federation [Submission no. 21], n.d.
48. I Gan, 'Soviet Antarctic plans after the International Geophysical Year: changes in policy', op. cit., p. 248.
49. D Belanger, Deep freeze: the United States, the International Geophysical Year and the origins of Antarctica's age of science, University Press of Colorado, Colorado, 2006, p. 356.
50. Joint Standing Committee on the National Capital and External Territories, *Inquiry into the adequacy of Australia's infrastructure assets and capability in Antarctica*, Submission by the Embassy of the Russian Federation, op. cit. According to the Russian Federation's 2019/2020 Pre-Season Information, Russkaya was manned from January 2019 to January 2020, that is, year-round. Operational information for 2020/2021 is not available. https://eies.ats.aq/Ats.IE/ieGenRpt.aspx?idParty=33&period=1&idYear=2019
51. 'Russia to reopen mothballed Antarctic Station', *Xinhua News*, Friday, 16 July 2021. http://www.xinhuanet.com/english/2019-05/24/c_138083964.htm
52. *Final Report of the Thirteenth Antarctic Treaty Consultative Meeting, Brussels, 7-18 October 1985*, p. 112, opening address by Mr Leo Tindemans, Minister of External Affairs of Belgium; Triggs, 'Australian sovereignty in Antarctica', Part I, op. cit., p. 158.

## Resource ambitions

How the gatekeeping function is formulated is another pretext to note. At past Antarctic Treaty Consultative Meetings and in response to Antarctic affairs raised in global forums, Russia, like other parties, has upheld the science-diplomacy nexus by expressing support for the overarching principles in the Antarctic Treaty, those of 'peaceful use demonstrated through freedom of scientific investigation and cooperation'.[53]

Treaty parties subscribe to this common policy narrative as a way to reinforce the centrality of the Antarctic Treaty System in managing Antarctic affairs. Australia adheres to the norm, maintaining a direct line of sight between treaty compliance and national Antarctic policy settings in *The Australian Antarctic Strategy and 20 Year Action Plan*. The plan leads with Australia's commitment to 'strengthening the Antarctic Treaty system and our influence in it, by building and maintaining strong and effective relationships with other *Antarctic Treaty* nations through our international engagement'.[54] In contrast, Russia's contemporary policy formulation opens the door to an alternative vision. It emphasises 'standing for peace and stability in Antarctica' without direct reference to the Antarctic Treaty System and its established science-based decision making practices.[55] The policy threshold in Russia's formulation facilitates the prospect of multi-faceted activities in the South Polar Region. The subtle difference permits Russia to position national interests—including future claims to sovereignty, support for Russia's space activities and the right to fish in Antarctic waters—among its highest priorities. This adjustment to the prevailing diplomatic norms places scientific cooperation into the service of national interests, making the achievement of science-based consensus at Antarctic Treaty Consultative Meetings for parties like Australia more challenging.

Russia's posture aligns with its historic plans but the posture itself is increasingly at odds with the constraints on the exploitation of Antarctic living and mineral resources that the treaty enacts through fishing quotas under the 1980 *Convention on the Conservation of Antarctic Marine Living Resources* and a ban on mining under the 1991 Protocol on Environmental Protection.[56]

Both instruments are reviewable. The challenge to enabling resource exploitation by pushing these instruments to review is to attempt to do so without collapsing the treaty and the sovereignty positions—including Russia's—that it protects on behalf of the 12 original signatories. Scientific cooperation as a high-order common interest between the original signatories is still a buffer against such change but not an answer to disruption should other consultative parties adopt this stance.

## Alternative treaty interpretations

The emerging alternative vision has an audience inside and outside the Antarctic Treaty System. China is a rising power in Antarctic affairs.[57] It has been a consultative party for 35 years. Nonetheless, there is a growing wariness of China's commitment to the treaty. 'China's position on some areas of international law, for example the South China Sea, indicates a preparedness to make some radically alternative arguments into the future'.[58] In the main, as countries achieve consultative party status, they align political postures and diplomatic lines of action to conform with the prevailing nexus between science and diplomacy in Antarctic policy-making. Transposed to the setting of Antarctic Treaty Consultative Meetings, China looks to be applying its tactic of challenging established interpretations of the 'legal position on a particular issue or rule' to buy time to establish the bona fides of alternatives.[59] China's recent comportment at treaty forums, noted as 'a vocal and at times disruptive, unconstructive, presence

53. *Antarctic Treaty 1959*, Preamble, Article 1, Article II and Article 111. https://www.ats.aq/e/antarctictreaty.html
54. Australian Government, *Australian Antarctic Strategy and 20 Year Action Plan*, 2016.
55. Joint Standing Committee on the National Capital and External Territories, *Inquiry into the Adequacy of Australia's Infrastructure Assets and Capability in Antarctica*, Submission by the Embassy of the Russian Federation, op cit.
56. *Convention on the Conservation of Antarctic Marine Living Resources*, done in Canberra on 20 May 1980, [1982] ATS 9 (entered into force for Australia and generally 7 April 1982). *Protocol on Environmental Protection to the Antarctic Treaty of 1 December 1959*, done in Madrid on 4 October 1991, [1998] ATS 6 (entered into force for Australia on 14 January 1998.
57. A Bergin and T Press, *Eyes wide open*, op. cit.
58. Professor D Rothwell, cited in J Gothe-Snape, 'China unchecked in Antarctica', ABC News, 12 April 2019.
59. A Bergin and T Press, *Eyes wide open*, op. cit.

in ATS meetings' indicates the nexus between science and diplomacy in Antarctic policy-making may not be immune to decoupling.[60]

China's stated geostrategic, political-military, economic and scientific interests and the consensus approach parties adopt under the treaty status quo appear to be on a collision path.[61] 'China wants to avail itself of every available right in the Antarctic. It also wants access to minerals and hydrocarbons, fishing, tourism, transport routes, water and bioprospecting'.[62] These economic interests are constrained by the legislative brakes on resource exploitation. In recent Antarctic Treaty forums China has used its ability to block consensus, targeting the declaration of marine protected areas that curtail Chinese fish and krill takes.[63]

China's choice to agitate national versus cooperative Antarctic initiatives brings into stark relief its objection to the way the current decision-making hierarchy preferences claimants over consultative parties based on claimants' historical scientific supremacy.

In 2012 a comparison between scientific research activities and political and diplomatic influence in the *Antarctic Treaty* highlighted this pressure point in treaty relations. It showed 'a subset of the original 12 treaty signatories, consisting of the seven claimant nations and the USA and Russia, not only set the political agenda for the continent but also provide most of the science, with those consultative parties producing the most science generally having the greatest political influence'.[64]

Clearly, conducting scientific activities leads directly to decision-making authority and the ability to influence Antarctic policy more broadly in local and global forums.[65] An influence shortfall in Antarctic diplomacy is incompatible with China's vision for a new regional and global order.[66] 'In 2014, Chinese President Xi Jinping announced that China was aspiring to become a polar great power'.[67] To assert this kind of leadership in the polar regions, 'a state must have high levels of polar scientific capacity and scientific research funding, a significant presence, significant economic, military, political, and diplomatic capacity there, plus a high level of international engagement in polar governance'.[68]

Antecedents for China's expansionist Antarctic policy lie in the plans that led to its first permanent research base in 1983 and treaty membership in 1985. China acknowledged at the time 'that other countries have a head start exploring the continent'.[69] Echoing the Russian example, the expedition that built China's first station—Great Wall in West Antarctica—was reported as 'part of the broader visibility that China has assumed in trying to catch up with the rest of the world and intended to enhance the international prestige of Chinese scientists, and consequently China itself, as much as to pioneer new discoveries'.[70] Like Russia, at home the Chinese leadership paid great attention to the expedition's other stated purpose which was to 'look into Antarctic resources'.[71]

National scientific capability in Antarctica requires infrastructure, advanced logistics and funding as well as scientific competence. The United States has operated three stations in Antarctica since 1956. McMurdo Station on the Ross Sea is Antarctic's largest base. Amundsen-Scott Station occupies the strategically and symbolically significant South Pole. Palmer Station extends the American footprint into the Antarctic Peninsula. While the United States has fewer stations than Russia and China, it's Antarctic

60. Ibid.
61. AM Brady, *China as a polar great power*, Woodrow Wilson Center Press, Washington, DC, 2017, pp. 11-15.
62. AM Brady, *China as a rising polar power: what it means for Canada*, Macdonald-Laurier Institute, Ontario, December 2019, p. 15.
63. A Bergin and T Press, *Eyes wide open*; Geoff Wade on Twitter, 'China starts renaming geography in the Antarctic', sourced from 'China launches First Marine Ecological Survey in Antarctic's Astronauts Sea', *Xinhuanet*, 6 January 2020; Mark Godrey, 'China's "most modern" processing ship makes maiden voyage', *SeafoodSource*, 25 May 2020.
64. J Dudeney and D Walton, 'Leadership in politics and science within the Antarctic Treaty', *Polar Research*, 31, April 2012.
65. AM Brady, China as a rising polar power, op. cit., p. 15.
66. N Rolland, *China's vision for a new world order*, National Bureau of Asian Research, Special report, 83, January 2020, pp. 2–3.
67. AM Brady, *China as a polar great power*, op. cit., p. 11.
68. Ibid.
69. 'China to set up Antarctic base', *The New York Times*, 23 October 1984.
70. Ibid.
71. Ibid.

Program is the longest and largest on the continent comprising over 3,500 personnel, an annual budget of $350 million and up to USD $7 billion in funds for scientific research.[72]

China spent USD $1.7 million on its initial expedition, prioritising a considerable investment in Antarctica at a time when its domestic economic modernisation drive had just begun.[73] China has continued this rate of investment over the past three decades. Great Wall station was followed by another three bases in the Australian Antarctic Territory built between 1989 and 2014. Zhongshan opened as a permanent base in 1989, then Kunlun in 2009 and Taishan in 2014.[74] Now the science and technology edge in Antarctica is drifting China's way and closing the political gap. China's scientific efforts are competing with the American and Russian presence on the continent. It is building a fifth station 'in the strategic Ross Sea area where the United States, New Zealand and South Korea have research stations. The new base will host a ground station for China's Beidou satellite system to rival the United States GPS and Russian GLONASS systems already serviced from that sector'.[75]

### A new Antarctic norm

Over the last decade, China has gone from being 'a minnow in Antarctic affairs to a powerful player whose interests cannot be ignored. It has done so through massive investments in polar capacity and by working individually with key states to identify points of cooperation and mutual benefit, using these to generate a dialogue to redefine Antarctica as a region of 'peaceful exploitation'.[76]

An alternative norm of 'peaceful exploitation' requires garnering support to review or work around the economic constraints the conventions on living resources and environmental protection impose. This helps explain why 'the greatest immediate impact that China is having on the stability of the Antarctic Treaty System is through corrosion and changes in the values and norms of the system'.[77] Scientific cooperation is exhibiting signs of competitive stress as the 'cumulative nature and effect of the breadth of Chinese activities, interests and goals' in Antarctica emerges.[78] If treaty review is the strategic aim, putting pressure on the nexus between science and diplomacy in Antarctic policy is a way to dislodge scientific cooperation from its historic gatekeeping function. Looking ahead, this has implications for Antarctic policy-making where the science and diplomacy nexus may be less influential than it is now.

## Treaty milestones

### *Review*

While the *Antarctic Treaty* is in place, existing claims and any future ones that countries might want to make cannot move forward.[79] The treaty has no fixed period of operation but can be amended or modified under provisions in Article XII. These provisions permit the original consultative parties to seek a review and agree changes by consensus.

The year 1991 was the 30th anniversary of the treaty coming into force. Once past that milestone, Article XII opened the review mechanism to requests from any consultative party with decision-making status—those upholding the research activity threshold—and voting requirements went from the diplomatically more challenging unanimous agreement to majority support.[80]

The 1991 milestone was notable because, by then, the voting cohort comprised the original 12 signatories and 14 new consultative parties admitted between 1961 and 1990 with India and China as notable inclusions.[81]

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72. 'United States Antarctic Program', https://www.nsf.gov/news/news_summ.jsp?cntn_id=102869
73. A Bergin and T Press, *Eyes wide open*, op. cit.
74. Ibid.
75. AM Brady, 'China's polar arms race', op. cit.
76. AM Brady, *China as a rising polar power*, op. cit., pp. 4–9; A Bergin and T Press, *Eyes wide open*, op. cit.
77. Ibid.
78. Ibid.
79. Triggs, 'Australian Sovereignty in Antarctica', Part I, op. cit.
80. *Antarctic Treaty 1959*, Article XII. 2. (b).
81. SAT, 'List of Parties', op. cit.

At the changeover, none of these parties invoked a review. There were geopolitical incentives to do so. There was contention over the fairness of the treaty, manifested in a Malaysian-led and Indian-endorsed effort at the United Nations to revoke it and declare Antarctica the 'common heritage of all mankind'.[82] There was also discontent circling the decision by Australia and France to overturn an agreed regime to mine Antarctica and substitute a mining ban under the *Convention on Environmental Protection*.[83]

All 26 consultative parties marked the milestone by issuing statements endorsing the signature role of scientific cooperation in Antarctic affairs, 'throughout their deliberations, the representatives have been mindful that the successful operation of the Antarctic Treaty depends in large part on the conservation of the tradition of peaceful scientific cooperation that has been the hallmark of the Antarctic Treaty System'.[84]

This collective effort was symbolically and strategically significant. It coincided with the diplomatic moment when the review mechanism shifted from requiring a unanimous vote to a majority one. The declarations upheld scientific cooperation as the foundation for consensus in Antarctic affairs at a time when contention over sovereignty and competition over resources pitted the science and diplomacy nexus against sovereignty and economic interests. How consultative parties navigated this tension is also significant. By reiterating scientific cooperation as the 'go to' for consensus building, parties allowed their common interests to prevail over resource-driven sovereign differences.

The period 2019–2021 marks another 30 years of operation. So far, this anniversary is concluding without signs of a review. However, the role of scientific cooperation in Antarctic politics is under intense scrutiny as long-term prepositioning for alternative treaty interpretations becomes obvious.

In 1991, China was among the new treaty members to issue declarations reinforcing the overarching goals and operating principles of the Antarctic Treaty System. Since 1991, the diplomatic weighting at Antarctic Treaty Consultative Meetings has shifted past the sphere of influence dominated by the scientific and political supremacy of the original signatories. China's behaviour in Antarctic forums now 'is sending a message to Australia and to other Antarctic parties about its Antarctic goals and capabilities, which at this stage do not appear compatible in the long term with the precautionary approach to environmental protection or to the continued consensus operation of the ATS'.[85]

In response, there are calls for Australia to decouple its long-standing scientific collaboration with China. 'Australia should continue to engage with China in collaborative science and Antarctic logistics where that cooperation benefits our interests as well as the Antarctic Treaty System, but we may need to reset the scientific relationship when our interests diverge. Some areas of scientific cooperation will continue, while others may cease'.[86] Decoupling is in fact already underway.

## Conclusion

The next 30-year treaty milestone lies ahead in 2049. Positions in relation to Antarctica that countries inside and outside the Antarctic Treaty System declare between now and then will be even more strategically significant as gauges to measure where the diplomatic centre of gravity at Antarctic Treaty Consultative Meetings is heading.

It will be important to watch what further inroads scientific competition makes over scientific cooperation. The 90-year anniversary of the *Antarctic Treaty* in 2049 will follow closely on the heels of a 2048 review milestone set for the mining ban. It will be the first time the science-diplomacy nexus is synchronous with the nexus between sovereignty and economic interests.

By the time 2048–49 comes around, continued scientific competition could see Russia, China and perhaps others establish sufficient bona fides to assert 'peaceful exploitation' as a new Antarctic norm. Positioning this outcome requires a long-term approach. While the bastion of treaty membership carries

82. P Beck, 'The United Nations and Antarctica', Polar Record, 22(137), May 1984, pp. 137–144. Nb - pages numbers are correct.
83. Australian Antarctic Division, 'Protocol on Environmental Protection to the Antarctic Treaty'; Australian Antarctic Program, 'Tribute to former Prime Minister Bob Hawke', 14 June 2019.
84. Final Report of the Sixteenth Antarctic Treaty Consultative Meeting, Bonn, 7–18 October 1991, 'Message from the XVIth Consultative Meeting to Stations in Antarctica', p. 346.
85. A Bergin and T Press, *Eyes wide open*.
86. Ibid.

forward with it the advantage that non-militarisation, scientific research and protecting the Antarctic environment are likely to continue to be managed and monitored collectively under the treaty framework, shifts in members' geopolitical alignments outside Antarctic Treaty Consultative Meetings are already disrupting the centre of diplomatic gravity inside it.

Such a shift would rub up against existing claimants' long-held positions. Australia and Norway are both claimants in East Antarctica and maintain official views consistent with the consensus of non-exploitation of Antarctica.[87] However, parties that subscribe to an alternate Antarctic future might also wait until further shifts in membership numbers weigh in favour of an agenda to assert a different, more economic interpretation of the *Antarctic Treaty*.

The nexus between science and diplomacy in Antarctic policy making is a fault line along which scientific competition carries shifts in global geopolitics to the floor of the Antarctic Treaty Consultative Meetings on which the current model of governing Antarctica depends. Along this fault line, disruptive diplomacy is making its mark. The ascent of geopolitical competition over scientific cooperation will increasingly challenge scientific activities as the assumed basis of good will for future relations between the occupants of Australian-claimed East Antarctica and elsewhere on the continent.

87. Commonwealth of Australia, *2017 Foreign Policy White Paper*, p. 85. 2017 Foreign Policy White Paper (dfat.gov.au); Norwegian Ministry of Foreign Affairs, *Norwegian Interests and Policy in the Antarctic,* Meld. Scientist. 32 (2014–2015), Report to the Storting (White Paper), 12 June 2015, pp. 8–9. Meld. St. 32 (2014–2015) (regjeringen.no)

## Annex A

**Official claims**

(Source: Secretariat of the Antarctic Treaty, 'Parties', https://www.ats.aq/devAS/Parties?lang=e)

| Territory | Claimant | Date | Claim limits | Area (km²) |
|---|---|---|---|---|
| Argentine Antarctica (Department of Tierra del Fuego, Antarctica, and South Atlantic Islands Province) | Argentina | 1942 |  25°W–74°W | 1,461,597 |
| Australian Antarctic Territory (External dependent territory of Australia) | Australia | 1933 |  160°E–142°2′E 136°11′E–44°38′E | 5,896,500 |
| Chilean Antarctic Territory (Commune of Antártica Chilena Province) | Chile | 1940 |  53°W–90°W | 1,250,257.6 |
| Adélie Land (District of the French Southern and Antarctic Lands) | France | 1840 |  142°2′E–136°11′E | 432,000 |
| Ross Dependency (Dependency of New Zealand) | New Zealand | 1923 |  150°W–160°E | 450,000 |
| Peter I Island (Dependency of Norway) | Norway | 1929 |  68°50′S 90°35′W68.833°S 90.583°W | 154 |
| Queen Maud Land (Dependency of Norway) | Norway | 1939 |  44°38′E–20°W | 2,700,000 |
| British Antarctic Territory (Overseas territory of the United Kingdom) | United Kingdom | 1908 |  20°W–80°W | 1,709,400 |
| **Total** | | | | **13,899,908.6** |

## Bibliography


Beck P, 'The United Nations and Antarctica', *Polar Record*, 22(137), May 1984, pp. 137-144.

Belanger DO, 'The International Geophysical Year in Antarctica: uncommon collaborations, unprecedented returns', *Journal of Government Information*, 30(4), 2004, pp. 482-489.

Belanger DO, *Deep freeze: the United States, the International Geophysical Year and the origins of Antarctica's age of science*, University Press of Colorado, Colorado, 2006, p. 356

Bergin A and Press T, *Eyes wide open: managing the Australia-China Antarctic relationship*, special report, Australian Strategic Policy Institute, Canberra, April 2020.

Bisley N, 'Asia after the pandemic', *The Interpreter Weekly Digest*, The Lowy Institute, 8 April 2020.

Brady AM, 'China's polar arms race', *The Australian*, 6 September 2018, p. 11.

Brady AM, 'China's rise in Antarctica?', *Asian Survey*, 50(4), July/August 2010, pp. 759–785.

Brady AM, *China as a polar great power*, Woodrow Wilson Center Press, Washington, DC, 2017, pp. 11–15.

Brady AM, *China as a rising polar power: what it means for Canada*, Macdonald-Laurier Institute, Ontario, December 2019, pp. 4–9.

British Antarctic Survey (BAS), 'How was the Antarctic Treaty formed?', BAS website, n.d.

Clinton HR, Remarks at the Joint Session of the Antarctica Treaty Consultative Meeting and the Arctic Council, 50th Anniversary of the Antarctic Treaty.

Commission for the Conservation of Antarctic Marine Living Resources, '*Conservation at CCAMLR: Understanding Article II of the Convention for the Conservation of Antarctic Marine Living Resources*', report by the delegations of Australia and the United States, Hobart, 17–28 October 2016.

Commonwealth of Australia, *2017 Foreign Policy White Paper*, 2017 Foreign Policy White Paper (dfat.gov.au)

*Convention on the Conservation of Antarctic Marine Living Resources*, done in Canberra on 20 May 1980, [1982] ATS 9 (entered into force for Australia and generally 7 April 1982), Article XXX.

Cook J, *A Voyage Towards the South Pole and Round the World Performed in His Majesty's Ships 'The Resolution' and 'The Adventure' in the Years 1722, 1773, 1774 and 1775*, vol 1, 2nd edn, W Strahan and T Cadell, London, 1777, pp. xix–xx.

Department of Agriculture, Water and the Environment, Australian Antarctic Division (AAD), 'Antarctic territorial claims', AAD website, last updated 14 April 2016.

Department of Agriculture, Water and the Environment, Australian Antarctic Division (AAD), 'History of the Antarctic Treaty', AAD website, last updated 11 April 2016.

Department of Agriculture, Water and the Environment, Australian Antarctic Division (AAD), 'Protocol on Environmental Protection to the Antarctic Treaty [the Madrid Protocol]', AAD website, last updated 17 May 2019.

Department of Agriculture, Water and the Environment, Australian Antarctic Division (AAD), 'Stations in the Australian Antarctic Territory', map, AAD website, June 2009.

Department of Agriculture, Water and the Environment, Australian Antarctic Division (AAD), 'Tribute to former Prime Minister Bob Hawke', AAD website, 14 June 2019.

Department of Agriculture, Water and the Environment, Australian Antarctic Division (AAD), '*Australian Antarctic Strategy and 20 Year Action Plan*', AAD website, last updated 27 April 2016.

Dudeney J and Walton D, 'Leadership in politics and science within the Antarctic Treaty', *Polar Research*, 31, 2012.

*Final Report of the Sixteenth Antarctic Treaty Consultative Meeting, Bonn, 7–8 October 1991*, Message from the XVIth Consultative Meeting to Stations in Antarctica.

*Final Report of the Thirteenth Antarctic Treaty Consultative Meeting, Brussels, 7–18 October 1985*, Opening Address by Mr Leo Tindemans, Minister of External Affairs of Belgium.

Gan I, 'Soviet Antarctic plans after the International Geophysical Year: changes in policy', *Polar Record*, 46(3), July 2010, pp. 244–256.

Gothe-Snape J, 'China unchecked in Antarctica', ABC News, 12 April 2019.

Jackson A, 'Antarctica without borders', *Australian Antarctic Magazine*, 22, Mawson centenary special issue, 2012, pp. 27–28.

Kerr A, 'Antarctica' in *A federation in these seas: an account of the acquisition by Australia of its external territories*, Attorney-General's Department, Canberra, 2009, pp. 224–237.

Lewis F, 'The coldest, windiest and driest place on Earth: who runs Antarctica?', *The Sydney Morning Herald*, (online edition), 29 November 2019.

Monan Z, 'Get prepared for China-US decoupling in science and technology', *China-US Focus*, 9 September 2019.

Norwegian Ministry of Foreign Affairs, *Norwegian Interests and Policy in the Antarctic*, Meld. Scientist. 32 (2014-2015), Report to the Storting (White Paper), 12 June 2015, Meld. St. 32 (2014–2015) (regjeringen.no)

Pender K, 'Red scare on ice: Antarctica, Australian–Soviet relations and the International Geophysical Year', *History Australia*, 14(4), 2017, pp. 645–659.

Rolland N, 'China's Vision for a New World Order', The National Bureau of Asian Research, NBR Special Report, 83, January 2020.

Secretariat of the Antarctic Treaty, 'List of Parties', n.d.

Secretariat of the Antarctic Treaty, 'Science and operations', n.d.

Secretariat of the Antarctic Treaty, 'The Antarctic Treaty', n.d.

Secretariat of the Antarctic Treaty, '*The Protocol on Environmental Protection to the Antarctic Treaty*', n.d.

Triggs G, 'Australian Sovereignty in Antarctica, part I', *Melbourne University Law Review*, 13(2), December 1981, pp. 123–158.

Triggs G, 'Australian Sovereignty in Antarctica, part II', *Melbourne University Law Review*, 13(3), 1982, pp. 302–333.

Wade G on Twitter, 'China starts renaming geography in the Antarctic', "China launches First Marine Ecological Survey in Antarctic's Cosmonauts Sea" https://t.co/N196KrlRzD https://news.sznews.com/content/2020-01/06/content_22757253.htm