

SPECIAL REPORT

Eyes wide open

Managing the Australia-China Antarctic relationship



Anthony Bergin and Tony Press

A S P I

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INTRODUCTION

Antarctica is strategically important to Australia. As a claimant state to 42% of the Antarctic continent, we have vital national interests in the Antarctic and critical relationships with other countries active in the region.

Under the Antarctic Treaty, Antarctica can be used only for peaceful purposes. Because of its unique international status and legal framework, Antarctica often sits aside from many of the geopolitical tensions unfolding in the rest of the world.

China is a rising power in Antarctic affairs, and Australia has a long relationship with China in the Antarctic. In recent years, a level of distrust has developed in that relationship, and that's now affecting decision-making in the Antarctic Treaty System (ATS).

For some analysts, the aim of cultivating a closer Australian relationship with China on Antarctic affairs is laudable, even during periods when the two sides differ sharply over other important issues. That's because a well-constructed relationship can improve the chances that Australia and China will be able to cooperate in a part of the world that's remained free from military conflict, and where Australia can influence China's evolving interests in the ATS.

Others see that the expansion of ties with China in Antarctica may come at the cost of our traditional role as a leader in Antarctic affairs.

Given recent broader tensions in the China–Australia relationship, China's global ambitions, lack of progress on key Antarctic policy initiatives and the potential for significant geopolitical consequences for the future of Antarctica and for Australia's strategic interests, it's important that Australian policymakers reconsider our long-term Antarctic policy settings. In doing so, they should critically assess the relationships we have with China and other Antarctic players.

China's rise and its ability to become, along with Russia, a significant disrupter in Antarctic affairs require us to measure our current and future Antarctic engagement with China. We can't afford to be complacent in our Antarctic posture.

China's disruptions to the established decision-making systems of the ATS are already emerging. Responses to those disruptions require early intervention, coherent strategies, disciplined implementation and strong partnerships with like-minded countries.

As geopolitical complexities in Antarctica are increasing, Australia needs a fresh whole-of-government assessment of our Antarctic engagement with China.

The first section of this report provides some background information on Australia, China and Antarctic relations. The second section discusses the policy goals that Australia and China seek to accomplish via Antarctic engagement. The third section examines the types of engagements the two sides carry out and assesses the value of each type for Australia and China.

We conclude with a series of recommendations on how to better manage Australia's Antarctic relationship with China to maximise the benefits of that engagement for our national interests and to mitigate any risks.

Overall, our assessment is that Australia should continue scientific and logistic cooperation with China in Antarctica, but there's reason to apply a more sharply focused assessment of the costs and benefits of cooperation, given China's more assertive international posture and increasing interests in Antarctica.

We recommend as follows:

- Future cooperation with China in relation to Antarctica should proceed after careful national assessment of Australian interests and impacts on wider multilateral interests.
- We should lift our engagement and policy activity on Antarctica at the political and senior officials levels and bring wider policy and intelligence perspectives to our Antarctic activities and relationships.
- Australia's 20 Year Antarctic Strategy and Action Plan of 2016 should be refreshed in the light of considerable geostrategic changes since then.
- Australia should engage allies and friends in a discussion on China's activities and assess its interests, goals and intentions in Antarctica.

More detailed recommendations are given at the end of the report.

AUSTRALIA– CHINA ANTARCTIC RELATIONS

This section reports on historical and recent Australia–China Antarctic relations and on *quid pro quo* logistics arrangements in Antarctica.

Historical relations

During the early 1980s, the Australian Antarctic Division (AAD) hosted the first Chinese scientists to visit Antarctica. From those early visits, strong scientific relationships between Australian and Chinese scientists, many of which continue today, were developed.

China conducted its first national scientific expedition to Antarctica in 1983 (the year it acceded to the Antarctic Treaty); built its first station (Great Wall Station) in the Antarctic Peninsula in 1985; and subsequently a station, Zhongshan, in the Australian Antarctic Territory in 1989.

Over the years, Australia has continued collaborations with China in science and capacity building, including by hosting Chinese scientists and officials at the AAD.

Recent developments

In March 2016, Australian and Chinese officials met in Hobart at the first meeting of the Joint Committee on Antarctic and Southern Ocean Collaboration.¹

This body was established under the China–Australia Memorandum of Understanding on Cooperation in the Field of Antarctic and Southern Ocean Affairs (the ‘China–Australia Antarctic MoU’), which was signed during President Xi Jinping’s visit to Hobart in 2014. Senior officials meet every two years under this arrangement.

The China–Australia Antarctic MoU affirmed the two states’ commitment to the ATS, established the joint committee, created a mechanism for environmental, policy, scientific and operational collaboration, and established a platform for Antarctic official and academic fellowships as part of professional exchanges of scientists, officials and scholars on policy, science and operations.²

In September 2013, the Tasmanian Government and the State Oceanic Administration of China also signed an MoU concerned with providing support services for Chinese logistics and science from Tasmania. Access to Hobart and support for China’s vessels are central features of the arrangement.³

China has committed to regular port calls to Hobart for its Antarctic icebreakers, including the most recent visits by the Xue Long and Xue Long 2 in November 2019. One day Hobart may host China’s first nuclear-powered icebreaker (see below). Australia transports a number of Chinese expeditioners on intercontinental flights from Hobart to Antarctica and within Antarctica.

Since 2016, China has provided support to the Australian Antarctic Program through its BT-67 Basler twin-engine ‘Snow Eagle’ turboprop intracontinental aircraft for transport and science surveys in Antarctica.

The expense and complexity of marine, terrestrial and airborne logistics in Antarctica mean that countries operating there often rely on each other for direct and indirect support. For example, Australia relies on logistical support from France, the US and China and provides logistical support to the US, France, Italy, New Zealand, Norway and China (see box).

Australian *quid pro quo* logistics arrangements in Antarctica

A common *modus operandi* in Antarctic logistics is for different countries to assist each other in return for services at no direct cost:

- The AAD provides the Chinese Antarctic program with up to 25 seats aboard Australia's Airbus A319 on flights from Australia to Antarctica. Australia also provides search and rescue cover in East Antarctica for the operations of China's Snow Eagle aircraft, in return for *quid pro quo* access to the Snow Eagle.
- China and Australia provide mutual search and rescue coverage for their flight operations in Antarctica.
- Out of these arrangements, the AAD receives 15 days use of the Snow Eagle for transport and science.
- Australia provides the US with five Airbus A319 flights from Christchurch to McMurdo Station each season. In return, the US provides fuel and aviation support for Australia at the South Pole.
- The Chinese Snow Eagle requires refuelling at the US station at the South Pole *en route* to the Chinese Zhongshan Station in East Antarctica. In return, the US receives five days use of the Snow Eagle. Those five days are passed on to the AAD. In return, Australia provides the US with additional Airbus A319 flights from Christchurch to McMurdo Station if required.
- France provides shipping to Macquarie Island for the AAD. In return, Australia provides Airbus A319 transport to Wilkins aerodrome in Antarctica and onward transfer to Concordia Station.

Australia also provides other countries with commercially based support:

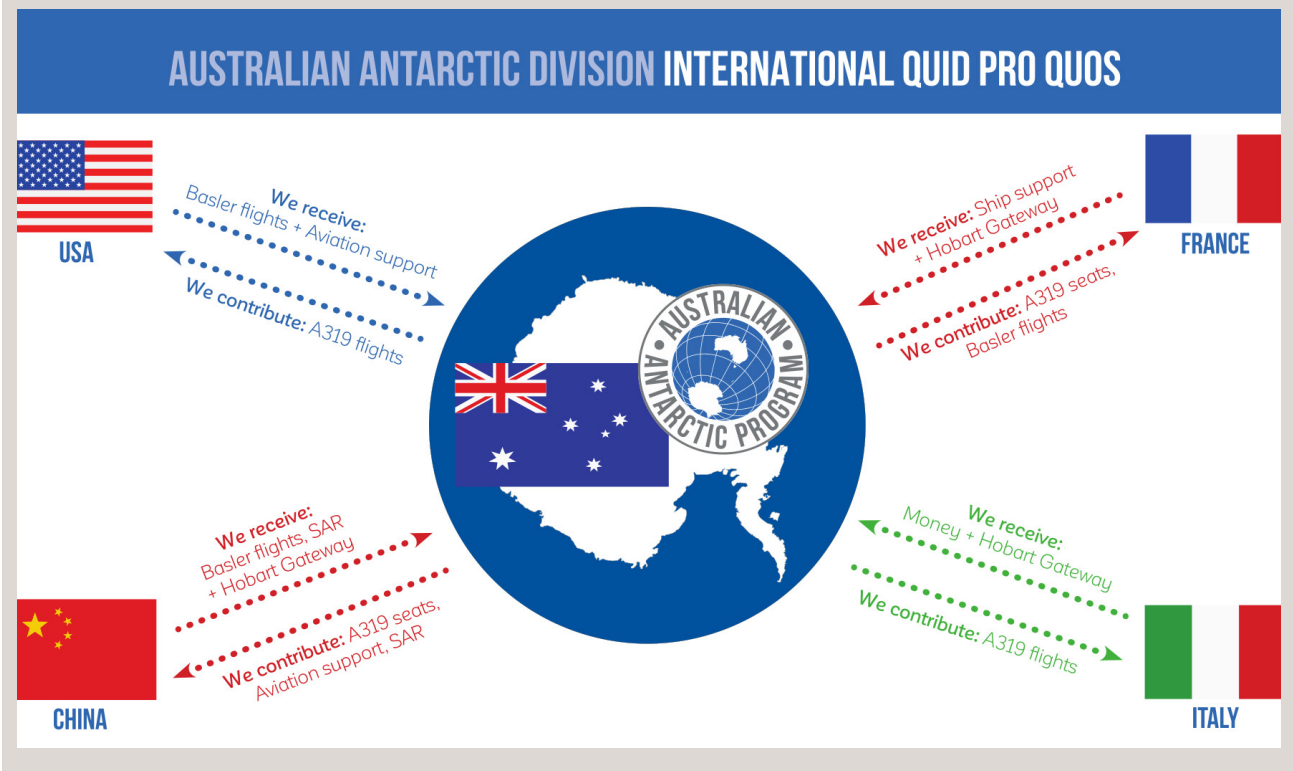
- Australia provides the Italian Antarctic program with five Airbus A319 flights to the Ross Sea.
- Australia provides Norway, in some years, with Airbus A319 flights from Cape Town to Antarctica.
- New Zealand sub-charters Australia's Basler aircraft.

Figure 1 shows these and other arrangements.

Australia operates its intercontinental air transport system mainly from Hobart to the Wilkins ice runway in Antarctica near Casey Station. Passengers and some goods are carried aboard the Airbus A319 on this route, while a Royal Australian Air Force C-17 provides seven ‘heavy lift’ flights per season. Australia uses a Basler BT-67 utility aircraft for the intracontinental transport of personnel and some goods using skiways near our stations. This is an AAD charter.

China also uses its Basler aircraft for intracontinental transport. It has foreshadowed that it wishes to construct an ice or compacted snow runway near Zhongshan Station capable of being used by large intercontinental aircraft, but it’s unclear what the timeframe for this project is or whether it’s feasible. China has approached Australia for advice on the construction of such an airfield.⁴

Figure 1: Antarctic *quid pro quo* arrangements



CHINA IN THE ANTARCTIC TREATY SYSTEM

This section reports on China's policy goals and existing and expanding capabilities in the Antarctic.

Capabilities and policy goals

China acceded to the Antarctic Treaty in 1983 and became a consultative party in 1985, giving it the right to vote in treaty deliberations. This was an outcome of China's emerging interest in Antarctic affairs in the late 1970s. Its accession coincided with the attention of Antarctic Treaty parties to the questions of the management of marine living resources and minerals. In 1985, China opened its first station, Great Wall, on the Antarctic Peninsula.

China participated in the Antarctic minerals convention negotiations and signed the Convention on the Regulation of Antarctic Mineral Resource Activity in 1989. The convention never came into force and was superseded by the Protocol on Environmental Protection to the Antarctic Treaty 1990, (commonly known as the Madrid Protocol). China participated in those negotiations.

China became a contracting party to the Convention on the Conservation of Antarctic Marine Living Resources in 2006, partly in response to pressure from Antarctic nations concerned about the participation of Chinese companies, ports and individuals in the illegal trade in toothfish. It became a member of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) in 2007.

Expanding Antarctic capabilities

A clear demonstration of China's growing Antarctic presence is its continuing large-scale investment in Antarctic infrastructure and new logistics capabilities.⁵

It now has four permanent Antarctic stations plus other logistic and research facilities. Its second station, Zhongshan, a permanently occupied facility, was built in the Australian Antarctic Territory in 1989. China's Kunlun research station, which opened in the territory in 2009, is located far inland on the Antarctic continent at the highest point of the Antarctic Plateau. Kunlun isn't permanently occupied or used each year. The Taishan outpost opened in 2014, serving as a staging station on the long traverse route from Zhongshan to Kunlun.

In East Antarctica, in the Australian Antarctic Territory, China has extended its presence in a fairly narrow sector. Three of its Antarctic facilities, three of its aircraft skiways and other temporary field camps are in this area.

China is currently building a new station on Inexpressible Island in the Ross Sea region.

It has built a new, second, Antarctic icebreaker (Snow Dragon 2) and is also building a large number of marine research vessels (which aren't necessarily polar capable but are able to operate in the Southern Ocean).⁶ In 2016 China announced it would build its first nuclear-powered ice-breaker.⁷

China is also investing heavily in shipping for the Antarctic tourism market. It has its first polar cruise ship and has placed forward orders for 10 such polar expedition vessels from Miami-based Sunstone Ships Inc.; builds are continuing over a few years.⁸ It appears that the ships will be used by various Chinese charter companies in both polar regions.

China has also recently constructed a large krill-fishing vessel for the Antarctic. The ship's claimed to be the largest such vessel ever built. It bought its first intracontinental aircraft, a Basler BT-67 (a turbo-prop powered DC-3), in 2016.⁹

Beijing has recently been in talks with Chile over the use of the Punta Arenas port for transport, supply and support for projects at its bases on the Antarctic continent.¹⁰ Great Wall Station is only 2 kilometres from one of Chile's stations. Logistical considerations suggest it's unlikely that China would service any of its other current East Antarctica stations from Punta Arenas. China is also in discussions with Argentina over access to the port of Ushuaia, an important staging point for Antarctic tourism.

China's increased presence in the Antarctic and its growing investments in bases, research, tourism,¹¹ logistics and infrastructure illustrate its ambitions to be, and to be recognised as, an influential Antarctic player.

A recent demonstration of that aspiration is China's proposal for an Antarctic Specially Managed Area (ASMA) at Kunlun. Some academics suggest that China sees the ASMA as a subtle and initial way for it to control territory or have it accepted as 'Chinese' over time, although the provisions of the Antarctic Treaty are contrary to those inferences. China didn't bring forward a proposal for an ASMA at Kunlun at the 2019 Antarctic Treaty Consultative Meeting.

China has shown some willingness to move on this point. Lacking an international endorsement for its ASMA proposal, it's now commenced negotiations on a code of conduct for the area. China has some history of establishing management systems and rules as alternatives to existing ones, as we see with the South China Sea Code of Conduct negotiations.

It's sometimes suggested that China may be seeking in the long term to make a territorial claim in Antarctica. But Article 4(2) of the Antarctic Treaty provides that:

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

This means that for all countries that are party to the Antarctic Treaty, including China, any activities occurring after the treaty came into force in 1961 will neither strengthen nor weaken existing claims to sovereignty. Nor can activities after 1961 create any new rights of sovereignty in Antarctica.

While that's the legal situation, China's activities in Antarctica are establishing a significant presence by creating 'facts on the ground'. Its activities in the South China Sea have demonstrated Beijing's willingness to openly ignore international law when it identifies a compelling strategic reason to do so.

China presented a number of papers at the recent meeting of the CCAMLR—a sign of its growing strategy to influence outcomes in the ATS.

In short, China is pursuing greater status in Antarctic affairs and increasing its activities on a broad front. Its leaders view their country's expanding presence in both the Arctic and the Antarctic as a way to demonstrate its growing global power. In China's political system, polar affairs are part of maritime affairs: becoming a polar great power is a key component of China's maritime strategy.

In 2015, the Chinese Government identified the polar regions, the deep seabed and outer space as China's new strategic frontiers, noting that they're open to all states with the capacity to exploit them.¹² 'Utilisation' and 'rational use' phrases are used liberally in China's 2017 Antarctic and 2018 Arctic polar policy papers, but no effort is made to define those terms or explain how they would be applied or how they would balance with environmental considerations.

The continued rise of China is now an important influence on the future geopolitical environment of the region, especially in East Antarctica.

China sees near-term economic opportunities in Antarctica, such as in fisheries,¹³ tourism and bioprospecting and, in the longer term, the prospect of exploring for minerals and oil.

Chinese officials say China's expansion in Antarctica prioritises scientific research, but they also acknowledge that national concerns about 'resource security' influence their Antarctic policy.¹⁴

In the past few years, China has become an active, vocal and at a times disruptive, unconstructive, presence in ATS meetings.

While the media and some academics have focused on purported territorial aspirations of China in Antarctica, on GPS-like satellite ground stations¹⁵ or on China's opposition to marine protected areas, perhaps the greatest immediate impact that China is having on the stability of the ATS is through corrosion and changes in the values and norms of the system.

In the past five years or so, in CCAMLR and more recently in Antarctic Treaty forums, China has used its ability to block consensus, which is the law-making foundation of the ATS. Often, its tactic is to present China's opposition as its interpretation of the 'legal position' on a particular issue or rule.

These manoeuvres in the law-making bodies of the ATS are particularly corrosive and have prevented progress on long-term commitments that China has previously agreed to, such as the establishment of marine protected areas, or even to walk back from existing fisheries protection rules. This matters to Australia, since even difficult negotiations (in company with like-minded countries) are more efficient than having to protect fisheries with patrols on the water.

The clearest indications to date of China's Antarctic goals are set out in a paper titled *China's Antarctic activities*, which was released at the 2017 Antarctic Treaty meeting in Beijing.¹⁶ It provides some insights into the party-state's current thinking on its interests in Antarctica.

The paper suggests that China is committed to the 'sustainable development of Antarctica', but doesn't make clear what those references to sustainable development mean when it comes to balancing future interests between environmental protection and economic development in Antarctica and the Southern Ocean.

China says it's willing to provide 'more effective public products and services for international governance of Antarctica to move towards a more equitable and reasonable orientation to structure the Antarctic Community of Human Destiny.'

This implies that, as far as China is concerned, the ATS is currently failing to provide it with an 'equitable and reasonable orientation', although what would need to change within the ATS to achieve that isn't spelled out. Nor is it clear what's meant by the 'Antarctic Community of Human Destiny', although similar phrases China uses in the UN and other international forums are meant to imply that what's good for China is good for all the developing world. The terminology has echoes of General Secretary Xi's concept of the 'China Dream' and his promotion of a 'Community of Common Destiny'. China is adept at marshalling developing countries in international forums by casting disputes in anti-Western terms.

We recommend that Australia start a dialogue with those allies and partners that share our interests in Antarctica in order to build a common understanding of China's intentions for the continent. As in other areas, such as the South China Sea, China benefits when interested parties are unable to develop shared positions on critical international issues and when the cumulative effect of a broad range of Chinese actions that each seem relatively low key emerges.

A shared view on China's approach to Antarctica would strengthen the ability of other Antarctic stakeholders to respond to Beijing. Done well, this would enable Australia and other like-minded parties to act ahead of time to shape the operational and policy environment in which Beijing seeks to act.

CHINA'S ENGAGEMENT WITH AUSTRALIA IN THE ANTARCTIC

China's engagement with Australia on Antarctica is designed to:

- learn from Australia in areas related to science
- gain insights from Australia on the ATS (for example, strategies on how to achieve consensus)
- be seen as a trusted Antarctic partner by Australia (and be recognised as having an influential Antarctic role, especially in East Antarctica)
- build linkages in scientific cooperation in Antarctica
- habituate Australia into accepting the 'new normal' of Chinese presence and activities in Antarctica
- use useful Australian intellectual property
- derive logistic benefits from Australia for its operations
- demonstrate to both domestic actors and other Antarctic players that China is a significant polar power
- demonstrate that China is not a threat to the ATS
- provide a conducive environment to achieve China's goals in the Antarctic.

Australia–China collaborations in Antarctic, climate and Southern Ocean science

Aside from scientist-to-scientist collaborations and small projects over many years, China has had formal arrangements in Australia for Antarctic, climate and Southern Ocean science. For example:

- Chinese research institutions were partners in the former Antarctic Climate and Ecosystems Cooperative Research Centre from the early 2000s.
- Currently, Australia, China and the US collaborate on mapping the Antarctic bedrock in the International Collaboration for Exploration of the Cryosphere through Aerogeophysical Profiling (the ICECAP project).
- The Qingdao National Laboratory for Marine Science and Technology has a formal arrangement with CSIRO in the \$20 million Climate of the Southern Hemisphere (CSHOR) collaboration.¹⁷ There is evidence that the Qingdao Laboratory also undertakes some military related research.¹⁸
- The University of Tasmania has a significant joint agreement with the Ocean University of China at Qingdao.

In recent years, Chinese investment in marine, climate and Southern Ocean science has filled a void brought about by changes in Australian funding, priorities, or both.

Some Australian scientists have expressed the view that Australia has become too dependent on China's investments in areas of important research. Here, there are some similarities with our universities' dependence on revenue from Chinese students and partner universities.

Australia's Antarctic interests and policy goals

The *Antarctic Strategy and 20 Year Action Plan* (released by the Prime Minister in 2016) states that Australia's Antarctic interests are to:

- maintain Antarctica's freedom from strategic confrontation, political confrontation, or both
- preserve our sovereignty over the Australian Antarctic Territory, including our sovereign rights over adjacent offshore areas
- support a strong and effective ATS
- conduct world-class scientific research consistent with national priorities
- protect the Antarctic environment, having regard to its special qualities and effects on our region
- be informed about and able to influence developments in a region geographically proximate to Australia
- foster economic opportunities arising from Antarctica and the Southern Ocean, consistent with our ATS obligations, including the ban on mining and oil drilling.

The *2017 Foreign Policy White Paper* stated Australia's staunch commitment to the Antarctic Treaty's strength and effectiveness and its principles of environmental protection and non-militarisation.

The *2016 Defence White Paper* stated that it's in our interest to work with like-minded countries to prevent any militarisation of Antarctica, which could threaten Australia's sovereignty over the AAT and our sovereign rights over its offshore waters.

The *2020 Antarctic Strategy and Action Plan*, while not discussing China or other Antarctic nations by name, states that we will strengthen our position as an international leader in Antarctica and build strong and effective relationships with other Antarctic Treaty nations.

For its part, Australia seeks to engage China on Antarctica to:

- use contacts between the two countries on Antarctica to shape China's overall approach to the continent
- facilitate China's engagement in the ATS
- explore and develop patterns of cooperation in Antarctica on areas of shared interests, especially in East Antarctica, where China is now a key player
- encourage China to operate in Antarctica in a way that doesn't generate tensions and to be environmentally responsible
- send clear signals to China about Australia's Antarctic capabilities (broadly defined)
- learn about the thinking, capabilities, logistics and patterns of China's Antarctic operations
- take advantage of logistic support for Australian operations
- demonstrate that we're the partner of choice for all states that operate in East Antarctica
- derive economic benefits from the use of Hobart as a logistical gateway to East Antarctica.

MODES OF ENGAGEMENT WITH CHINA IN ANTARCTIC AFFAIRS

Table 1 in the appendix to this report shows that there's no shortage of forums providing opportunities for cooperation between Australia and China in Antarctic affairs. They range from international treaty meetings, through logistics, operational and scientific forums and meetings, to cultural and social events.

The most critical are the law-making treaty and conventions meetings: the annual Antarctic Treaty Consultative Meeting; the Committee for Environmental Protection; and the CCAMLR and its Scientific Committee. These multilateral meetings shape international law for the Antarctic, and China is now participating actively in them.

The meetings also provide opportunities for important bilateral engagement with China and other countries. Traditionally, Australia and China have held bilateral discussions annually on the sidelines of the Antarctic Treaty Consultative Meeting.

The most important forums for strategic engagement with China and other states in science are the Scientific Committee on Antarctic Research and bilateral discussions in areas of joint scientific collaboration.

The Council of Managers of National Antarctic Programs provides a platform for bilateral and multilateral engagement on logistics.

We're strongly engaged in these forums and use them to pursue our Antarctic interests and exercise influence. China does likewise and is increasingly active and influential.

A unique and important forum that can be used to assess the relationship between China and Australia in the Antarctic was established in the China–Australia Antarctic MoU: a joint committee that meets every two years to discuss joint activities.

At Tasmania's Antarctic gateway level, an agreement between the State of Tasmania and the Chinese State Oceanic Administration provides for logistics and economic cooperation. The agreement sets out the areas of cooperation but doesn't establish any investment frameworks for the port or the state.

We recommend that the Australian Government reassess the balance of cooperative effort with China on Antarctica compared to our cooperation with other countries.

The government should be careful not to allow the development of any dependency on Antarctic cooperation with China that might limit our scope of decision-making. Chinese interests and priorities for Antarctica in the longer term diverge from Australian interests and priorities.

ASSESSING THE UTILITY OF ENGAGEMENT

Tables 2 and 3 in the appendix summarise pathways of influence and benefits experienced by Australia and China in various modes of Antarctic engagement.

The following observations are derived from discussions with Australian Antarctic officials, analysts, institutions, scientists and academics and reflect an Australian perspective. Chinese Antarctic decision-makers were not interviewed.

The key observations are as follows:

- Australia is active in promoting cooperation in the Antarctic but currently has limited ability to shape China's direction as an Antarctic power.
- We're actively engaged with China in capacity building in environmental management, logistics and science.
- We're keen to signal our own Antarctic capabilities to demonstrate our commitment to the ATS and to demonstrate to China that we're a useful partner whose views should be taken into account.
- It's essential for us to improve our understanding of China's capabilities, interests and breadth of activities in order to better manage the China–Australia Antarctic relationship.
- Only by assessing the cumulative nature and effect of the breadth of Chinese activities in the light of Beijing's interests and goals will Australia and like-minded partners be able to create and implement strategy and policy that can get ahead of the emergent Chinese presence and Chinese actions.
- China has ample opportunity to learn from our knowledge of the ATS. Our engagement on science, logistics, capacity building and diplomacy should be carefully managed in order to assure Australian interests. Oversight at the broader national policy level is needed to bring a wider view of Chinese strategy and action to this work.
- China's relationships with Australia in the Antarctic should not reorient our Antarctic policies towards what China sees as its own strategic goals.
- China's behaviour in Antarctic forums sends a message to us and to other Antarctic parties about its Antarctic goals and capabilities, which at this stage do not appear compatible in the long term with our precautionary approach to environmental protection or to the continued consensus operation of the ATS.
- Many Antarctic forums providing opportunities for interaction and cooperation with China (tables 2 and 3). Australia is currently the more active and influential in those forums.
- There's limited scope for Australia to discourage dual-use technology in China's Antarctic program (see box). This has a parallel in the Australian research and university sector, in which current policy settings have been enabling growing Chinese military and internal security capabilities.¹⁹

‘Dual use’ and militarisation in the Antarctic

The Antarctic Treaty provides that Antarctica be used for peaceful purposes only and prohibits ‘measures of a military nature’.

However, Article 1 of the treaty does allow for military personnel or equipment to be used for scientific research or for any other peaceful purposes. The interpretation of those provisions has never been tested.

The use of military aircraft or vessels for research or logistics support is a clear example of legitimate dual use, but the threshold between military use and purely civilian or ‘peaceful’ use could be tested over time.

The most likely potential military uses of Antarctica would involve the continent being more fully integrated into global military activities, rather than generating any direct military threat within or from Antarctica.

Some academics point out that Antarctica could be useful for various command, control, surveillance and reconnaissance systems, as well as for basing satellite receiving and processing stations.

China is rolling out its dual-use BeiDou satellite navigation system, which is its equivalent of the US GPS system. BeiDou ground receiving stations installed in Antarctica improve the overall global performance of the Chinese system, and particularly its locational accuracy.

But BeiDou’s accuracy has already been improved by international testing, including from a GPS and BeiDou-capable international ground station in Perth. The additional stations in Antarctica aren’t likely to add much more locational capability to it.

Knowledge of and experience in operating many items of scientific equipment, such as aerial drones, remotely controlled submersible vehicles, satellite technologies and remote sensing equipment, could be used elsewhere for military purposes.

In its 13th Five-Year Plan, China listed ‘the development of real-time online monitoring systems and overseas observation (monitoring) stations for the marine environment’ as one of its major aims, not just for the Antarctic but for the ocean as a whole. It would build on ‘a service platform for the provision and application of information regarding the polar environments and potential polar resources’.²⁰

We assess that it will become increasingly difficult to distinguish between legitimate activities being carried out under the ATS and activities that should be prohibited by the non-militarisation provisions of the Antarctic Treaty.

General Secretary Xi’s signature ‘military–civil fusion’ initiative is a strategy to maximise contributions from civil government, businesses and research organisations to PLA military capability, so we should expect the maximum exploitation of potential dual-use technologies and activities for PLA purposes, including in Antarctica.

The risk for Australia and the ATS is that, while there’s no definitive evidence that facilities in Antarctica are currently being used for ‘military purposes’, the interpretation of the Antarctic Treaty’s provisions on military use may be widened over time by states seeking to carry out a range of covert military activities. This uncertainty also contributes to mistrust among ATS members.

Australia's influence in the ATS is a result of our status as an original signatory to the Antarctic Treaty, our active and continuous engagement in Antarctic science and Antarctic affairs, and our longstanding relationships with other like-minded countries.

However, there's now a need to rebalance the relationship between Australia and China as China's Antarctic investment grows and its diplomatic assertiveness increases.

A rebalanced relationship should be based on Australia's national interests in the Antarctic, and we should aim for a clear, objective understanding of Chinese interests, goals and activities.

We can then seek common ground on:

- any continuing Australian role in facilitating China's historic Antarctic endeavours and its participation in the ATS
- Australia and China's proximity and mutual investments in East Antarctica
- long-term collaborations in scientific research
- the rapid development of logistic capabilities that could further develop the relationship in mutually beneficial ways.

But all this should be done with our strategic interests foremost in our minds.

RECOMMENDATIONS

Australia should reappraise the goals and outcomes it wants from our relationship with China in the Antarctic. That appraisal should establish mechanisms for monitoring, evaluating and adjusting the relationship.

The assessment should be informed by wider national policy on China, which can bring an understanding of the likely cumulative effect of China's actions and presence in Antarctica.

Our relationship with China in Antarctica is a subset of the broader Australia–China relationship, so it's important to ensure that we have a whole-of-government perspective on the value of the Antarctic relationship.

We should ensure that we sustain scientific, logistic and other forms of Antarctic collaboration with China where it's in our national interest and helps to advance the objectives of the ATS. At the same time, we should be wary of any attempt by China to use the prospect of cooperation as a lever to slow, deter or distract us from taking actions in our own interest.

In formulating policy and plans for Australia in the Antarctic, understanding where Australian goals and interests diverge from those of the Chinese party-state is as important as assessing where there's common ground.

For Australia, the priority areas for collaborations should be ones where we receive a clear benefit, where the output of the collaboration advances science and strengthens the ATS, and where the collaborations provide a platform for mutual understanding and trust.

Collaborations should be undertaken with an 'eyes wide open' approach and after due diligence, noting, for example, the implications of technology use and development and restrictions such as the possible impacts of US export controls on technology. Understanding the implications of China's military–civil fusion strategy for Beijing's Antarctic presence will be key here.

Australian researchers will need to be aware of possible impacts when dual-use or advanced technologies are employed in research (for example, if Australian researchers are using advanced instrumentation and find that they're unable to bring Chinese research partners into projects).

Australia's diplomatic efforts should focus on promoting China's adherence to the rules and obligations of the ATS, sending clear signals about the standards of behaviour necessary if China is to be regarded as a responsible Antarctic player. We should seek to learn and understand more about China's motives, capabilities and intentions through those engagements.

Australia should monitor Chinese work in forums, and with stakeholders, outside the ATS to be alert to the creation of alternative consensus views and alternative forums and norms that might undermine the system.

While the Australia–China Antarctic relationship will evolve as a function of the overall Australia–China relationship, it provides a unique opportunity for engagement, cooperation and collaboration under a treaty and in a region that are strategically important to us.

Much of China's Antarctic presence and drive will evolve because of China's own interests and objectives in Antarctica, and not because of the Australia–China relationship. However, the Australia–China relationship will be shaped and affected by China's growing Antarctic presence, which is likely to produce some difficult tensions and issues for future Australian governments to manage.

Given the track record Beijing has in moving rapidly on a broad front (as in the South China Sea), we need to be prepared to respond to a rapid increase in the speed and scale of China's actions in Antarctica.

If Australia is clear-eyed about our goals for Antarctic engagement with China and the means needed to achieve them, that engagement may offer value while guarding against any risks that it poses for other Australian interests.

China's long-term interests, especially its interests in tourism and resource extraction, are likely to diverge further from Australia's. One concern is the potential use of scientific research as a cover for resource prospecting (for example, seabed mapping and remote sensing may give a good indication of resource locations).

Australia should aim to exert influence on Antarctic policy globally when divergences do happen. As a guiding principle, the Hippocratic oath, 'First, do no harm', would be useful in managing Australia–China and Antarctic relations. For example, we shouldn't help China to use Antarctic research for resource exploitation, to gather information on advanced technology with clear potential for military purposes or to act in environmentally harmful ways or in ways contrary to the ATS.

To ensure that our engagement with China on Antarctic affairs proceeds in line with our national interests, we should pursue an approach that's clear, cogently communicated, credible, comprehensive and consistent. This must be informed by a broad appreciation of the cumulative effect of China's actions, policy and presence on the continent.

Whole-of-government

1. In the light of the rapidly accelerating pace of strategic developments since 2016, the Australian Government should update its public Antarctic Strategy.
2. To inform this process, it should develop a classified whole-of-government strategy for engagement with China in Antarctic affairs. The strategy should include assessments of China's broad global ambitions (including its specific interests and goals in the Antarctic), the transparency of all scientific programs and activities being undertaken with China, how those programs and activities are playing out (or may play out) in the Antarctic, and how Australia should engage and respond if China undermines our national Antarctic interests and the ATS.
3. The government should consider establishing a Ministerial Antarctic Council to assess, measure and review Australia's Antarctic engagements, including most importantly our engagement with China, and to oversee the coherent implementation of Australia's Antarctic Strategy. The core of the council should be the ministers for Foreign Affairs, the Environment and Defence. The council could be chaired by the Prime Minister. It should engage the Tasmanian Government to ensure that gaps don't open between federal and state policies and actions.
4. As a demonstration of Australia's commitment to Antarctica and the ATS, the Prime Minister and senior ministers should visit Antarctica.

Understanding

5. The AAD should, at the senior level, engage across the Australian Government and its agencies on Australia's Antarctic relationship with China. The AAD should have the resources and capabilities to assess the information needed to understand China's (and others') Antarctic motivations and be able to adjust and respond to them on behalf of government.
6. We should ensure that we clearly understand the scope and breadth of China's activities and motives in the Antarctic and assess their cumulative effect, rather than leaving those issues in stovepipes. To that end, policy

departments and other agencies should regularly engage with Australian Antarctic scientists and logisticians. There should be ongoing dialogue to provide input on how China might be affecting Antarctic norms and governance, on any risks in research collaborations, and on where we might be more selective.

7. Australia's intelligence community should regularly brief scientists and other Australian Antarctic officials about China's aims in Antarctica and what scientific cooperation might illustrate about Chinese motivations. These officials would need to be security cleared to an appropriate level to use classified material.

Clear and cogent communication

8. We should leverage our most authoritative diplomatic channels with China to include discussion on Antarctic affairs. Antarctica has been dropped from the Australia–China High-Level Dialogue, so it should be placed back on the agenda. If Canberra can talk to Beijing about areas of cooperation in Antarctica at a high level, that will help our broader relationship with China.
9. Australia should strengthen its strategic messaging to China on Antarctic affairs. We should object strongly when China's Antarctic views run counter to the values and norms of the ATS and speak out early on any Chinese attempt at 'norm shifting', both bilaterally and in ATS forums with like-minded treaty signatories.
10. We should adopt a more tailored and transactional approach in our Antarctic engagement with China. We should make clear what we require from cooperation and what we expect from China.
11. The 2014 China–Australia Antarctic MoU provides a very important platform for Australia–China engagement in the Antarctic. As the relationship matures through this MoU, it can help in building trust, as well as in managing the practical aspects of how China and Australia operate in the Antarctic. We need to ensure that we're engaged strategically in this forum and that China's participation is at appropriate levels for constructive engagement.
12. Australia should both lift and deepen our engagement with like-minded partners. We should establish a dialogue with friends and allies aimed at developing a shared understanding of Chinese interests and ambitions for Antarctica. That shared understanding should inform stronger common approaches in Antarctic multilateral forums. We should work closely with natural groupings in the ATS, such as the claimant states, the original signatories, the Five Eyes, the Southern Hemisphere states and the Antarctic gateway states, and other like-minded states and groupings. We should work to ensure that differences on China's Antarctic policies or actions aren't treated only as bilateral issues.
13. We should cooperate much more with the US on Antarctic affairs. While the US (as the depositary for the Antarctic Treaty and a defining proponent of the treaty) doesn't recognise Australia's Antarctic claim, the US and Australia share strong common interests in the Antarctic and the continued stability of the ATS. Antarctica might be considered a topic at the next AUSMIN meeting in order to explore opportunities for further cooperation.
14. We should broaden and increase our Antarctic engagement with Asia to avoid any pitfalls of overreliance on Chinese bilateral cooperation. South Korea and Japan are both countries with which Australia has strong collaborations in science. India has expressed interest in strengthening its Antarctic connections with Australia. This cooperation should extend beyond traditional logistic and scientific cooperation to increased diplomatic engagement on Antarctic affairs.

Transparency

15. Australia should promote a 'transparency' agenda in the ATS. While greater use of the inspection provisions of the Antarctic Treaty would be important and useful, concerted efforts by Australia and other treaty parties should be focused on the reporting provisions of the treaty and other instruments. All parties should be confident that other nations' Antarctic activities are consistent with the treaty.
16. We should look to modern technologies, including civilian satellite observation technologies, to enhance inspection and transparency, and we should include appropriate specialists in inspection activities. Experts from the Defence Science and Technology Group in civilian roles should be more involved in an enhanced inspections regime.

17. Australia should regularly inspect Chinese facilities in the Australian Antarctic Territory (specifically, Zhongshan, Taishan and Kunlun)²¹ and facilitate China's (and others') inspections of our Antarctic operations.
18. We should monitor Chinese work in forums and with stakeholders outside the treaty system to be alert to the creation of alternative consensus views and alternative forums and norms that might undermine the ATS.

Science diplomacy

19. Australia should continue to engage with China in collaborative science and Antarctic logistics where that cooperation benefits our interests as well as the ATS, but we may need to reset the scientific relationship when our interests diverge. Some areas of scientific cooperation will continue, while others may cease.
20. Both China and Australia have a strong understanding and interest in the importance of climate change science, marine science and ecosystem science in Antarctica and the Southern Ocean. We should prioritise climate, ecosystem and environmental research as priorities for engagement with China.
21. We should ensure that we have consistent and diverse engagements with other countries doing science in Antarctica. We should ensure that our science priorities continue to align with our national interests and we should ensure our strategic engagement with other countries in Antarctic science.
22. Hobart's role as a science and logistics gateway to Antarctica is a useful soft-power diplomacy tool. Chinese scientists regularly stop there on the way to and from the south, and it's already the Antarctic port for France. Its use as the gateway to East Antarctica should be promoted to South Korea, Japan and India. Diversifying other countries' use of Hobart reduces economic reliance on China for the state and its businesses.
23. All-season air access to Australia's Davis Station (recently announced by the Australian Government) will provide a considerable lift in our Antarctic capabilities and a unique platform for engagement and influence with China. It's a potential game-changer in Australia's access to East Antarctica and will increase our ability to collaborate with all countries active in that region, and especially China, given the proximity of China's research stations. This project should be a high priority for Australia.
24. To ensure balance and credibility with China on Antarctic cooperation and collaboration, we should maintain our natural leverage and not appear to want progress in the relationship any more than China does. As noted in Recommendation 10, a more informed, transactional, negotiated approach is needed.
25. Stagnant and, in some areas, diminishing funding for science (as opposed to logistics and infrastructure) has led to China investing in Antarctic research in Australian institutions. We're running the risk of being mendicants living on Chinese research funds. Modest Australian reinvestment in Antarctic science funding will diminish that risk and increase our leverage in our engagement with China on Antarctic research. China has the capability and resources to do big Antarctic science, so it doesn't really need us if our capabilities are run down or withdrawn.

CONCLUDING REMARKS

Australia's Antarctic relationship with China has been mainly in scientific and logistic cooperation, and it's been growing.

Our future Antarctic relationship with China should ideally be characterised by continuing engagement and cooperation, but increased friction and competition seem likely as China seeks to expand its role and influence in Antarctica and the ATS and pursue its own conception of its interests in Antarctica. Australian policy and action must take this likely divergence into account, and policymakers should devise approaches to manage it ahead of time.

How Australia's relationship with China evolves in Antarctica will be one indicator of the state of our broader strategic relationship. What countries will do together in the Antarctic can indicate the level of trust they have in each other and each other's strategic intentions.

Talking about areas where both sides have broad areas of agreement, such as science and logistics, can help to advance our overall bilateral relationship with China, but we should understand and be explicit about where the limits of cooperation lie. This would enable cooperation in areas where our interests converge and the effective management of challenges where they don't. For Australia, observing the rules and norms of the ATS and maintaining the system into the future are non-negotiable, as is our engagement with our traditional Antarctic partners.

China has its own set of Antarctic interests, which Australia can and must assess and understand. That understanding must be informed by the nature of Chinese strategies and actions in other international forums and in places such as the South China Sea and the South Pacific, as well as core initiatives such as the Chinese national strategy of military-civil fusion.

The challenge will be to manage the Australia-China Antarctic relationship without putting at risk areas of cooperation where mutual interests are beneficial to us. However, Australia shouldn't be the one that always 'folds' when China says, 'Do this or else cooperation is at risk.' We should be prepared to walk away from aspects of cooperation when that's the right thing to do to protect our national interest and to protect the integrity of the ATS.

Where possible, increasing our mutual understanding of our differing perspectives on Antarctica has the benefit of strengthening our capacity to work together in response to problems when they occur.

Australia has a significant stake in the ATS's rule-making processes. Developing cooperative relations with China in Australian Antarctic policy is therefore important for protecting our Antarctic interests and the region itself.

Finally, Australia's engagement with China in Antarctica provides opportunities for our principal ally, the US, to leverage our insights into and awareness of China's approach to Antarctica and its activities there.

APPENDIX

Table 1: Australia–China Antarctic engagement modes, participants and frequency

Forum for engagement	Australian representatives	Chinese representatives	Frequency
Antarctic Treaty Consultative Meeting (ATCM)	Department of Foreign Affairs and Trade (DFAT) (lead); AAD and other senior government officials; lawyers; academics; NGOs	Foreign Ministry; Arctic and Antarctic Administration (CAA); Polar Research Institute of China (PRIC); officials; academics	Annual
Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and its Scientific Committee and associated subgroups	AAD (lead); Senior DFAT and Department of Agriculture and Water Resources officials; fishing industry representatives; NGOs	Foreign Ministry; Bureau of Fisheries; Ministry of Agriculture and Rural Affairs; Agriculture, Fisheries and Conservation Department; China National Fisheries Corporation; others	Annual
Committee for Environmental Protection	AAD and other senior government officials; academics; NGOs	CAA	Annual
ATCM intersessional contact groups	AAD/DFAT and other senior Australian Government officials; non-government participants	Foreign Ministry; CAA; PRIC; academics	Ad hoc, usually some each year
Joint ATCM policy initiatives	DFAT/AAD and other senior government officials and lawyers	Foreign Ministry; CAA; PRIC	Occasional, opportunistic
Council of Managers of National Antarctic Programs and associated expert committees and subgroups	AAD senior officials; Tasmanian Government officials; industry representatives (such as Tasmanian Polar Network)	CAA	Annual
Scientific Committee on Antarctic Research and its associated working groups	Australian scientists	Scientists from PRIC	Annual
High-level science meetings	Australian academic scientists and government scientists from AAD, CSIRO, Institute for Marine and Antarctic Studies, Blue Economy CRC	Scientists from PRIC and other relevant institutions	Ad hoc, but typically a few interactions each year
China–Australia Antarctic MoU	AAD officials	Government Antarctic officials	Every 2 years
Australia–China logistics cooperation	AAD officials; government contractors	CAA officials	Most years
Ad hoc logistics discussions	AAD officials; Tasmanian Government officials; industry representatives (such as Tasmanian Polar Network)	CAA	Occasional, ad hoc
Environmental cooperation, including research, clean-ups, protected area proposals, etc.	AAD officials	CAA officials	Occasional, opportunistic
Antarctic Treaty inspections (as inspectors or recipients of inspections, or in joint inspections)	DFAT/AAD and other senior government officials	Foreign Ministry and CAA officials	Occasional / every 3 or 4 years

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Forum for engagement	Australian representatives	Chinese representatives	Frequency
University of Tasmania – Ocean University, Qingdao	Formal student teaching in Hobart and Qingdao	University academic research staff and students	Ongoing
Polar Law Conference	Academics and higher degree research (HDR) students from universities of Tasmania, Sydney and Wollongong	University academic research staff and students	Annual
Academic exchanges and Antarctic education, including teaching and short courses	University of Tasmania academic staff and students	University academic research staff and students	Ad hoc
Scientific cooperation, including exchange scientists	Research scientists and HDR students	Research institutions	Occasional, opportunistic
Ad hoc social contact (e.g. during port visits)	AAD officials; scientists; government contractors; Tasmanian Government officials; industry representatives	CAA officials; China National Antarctic Research Expedition scientists	Most years, opportunistic
Antarctic festival	AAD officials; scientists; government contractors; Tasmanian Government officials; industry representatives; students	Chinese scientists and visiting academics; Chinese students	Biennial

Evaluating the interactions

Assessing the relative gains from bilateral interactions based on open-source material must involve some tentative evaluations. Our evaluations here should be taken as only a first attempt to make some judgements.

Table 2: Australian value from senior Antarctic officials' meetings and other engagement modes

Forums for engagement	Australian goals					
	Shape China's emergence as an Antarctic power	Promote cooperation in areas of shared interest	Encourage China to act in environmentally responsible manner (e.g. fishing, tourism, bases, research stations or facilities)	Discourage militarisation	Signal Australian Antarctic capabilities	Understand Chinese Antarctic thinking and capabilities
Antarctic Treaty Consultative Meeting (ATCM)	Some	Yes	No	No	Yes	Yes
Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), Scientific Committee and associated subgroups	Some	Yes	Some	No	Yes	Yes
Committee for Environmental Protection	Some	Yes	Yes	No	Yes	Yes
ATCM intersessional contact groups	Some	Yes	No	No	Yes	Yes
Joint ATCM policy initiatives	Yes	Yes	Yes	No	Yes	Yes
Council of Managers of National Antarctic Programs and associated expert committees and subgroups	Some	Yes	Some	No	Yes	Yes

Continued on next page.

Forums for engagement	Australian goals					
	Shape China's emergence as an Antarctic power	Promote cooperation in areas of shared interest	Encourage China to act in environmentally responsible manner (e.g. fishing, tourism, bases, research stations or facilities)	Discourage militarisation	Signal Australian Antarctic capabilities	Understand Chinese Antarctic thinking and capabilities
China–Australia Antarctic	Some	Yes	Yes	No	Yes	Yes
Scientific Committee on Antarctic Research and associated working groups	Some	Yes	No	Yes	Yes	Yes
Antarctic Treaty inspections (as inspectors or recipients of inspections, or in joint inspections)	Some	Yes	Yes	Yes	Yes	No
High-level science meetings	Some	Yes	Some	No	Yes	Yes
China–Australia Antarctic MoU	Some	Yes	Yes	No	Yes	Yes
Bilateral logistic meetings	Yes	Yes	Yes	No	Yes	Yes
Logistic cooperation	Some	Yes	Yes	No	Yes	Yes
Polar Law Conference	Some	No	No	Some	Yes	Yes
Academic exchanges, including teaching and short courses	Yes	Yes	Yes	Some	Some	No
Antarctic education, undergraduate and postgraduate	Yes	Yes	Yes	Some	Some	No
Scientific cooperation, including exchange scientists	Yes	Yes	Yes	No	Yes	Yes
Environmental cooperation, including research, clean-ups, protected area proposals etc.	Yes	Yes	Yes	No	Yes	No
Ad hoc social contact (e.g. during port visits)	No	Yes	No	No	No	Yes
Antarctic Festival	No	Yes	No	No	Yes	No

Table 3: China's value from senior Antarctic officials' meetings and other engagement modes

Engagement mode	Chinese goals				
	Shape Australian policy in Antarctica	Learn from Australia's knowledge of ATS	Send signals to other Antarctic countries about China's Antarctic goals	Show China's domestic stakeholders that China is a major Antarctic player	Strengthen logistic and science cooperation with Australia
Antarctic Treaty Consultative Meeting (ATCM)	Some	Yes	Yes	Yes	Yes
Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), Scientific Committee and associated subgroups	No	Yes	Yes	Yes	Some
Committee for Environmental Protection	Some	Yes	Yes	No	Yes
ATCM intersessional contact groups	Some	Yes	Yes	Yes	Yes
Joint ATCM policy initiatives	Yes	Yes	Yes	Some	No
Antarctic Treaty inspections (as inspectors or recipients of inspections, or in joint inspections)	Yes	Yes	Yes	Yes	Yes
Council of Managers of National Antarctic Programs and associated expert committees and subgroups	Some	Yes	Yes	No	Yes
China-Australia Antarctic MoU	No	Yes	Yes	No	Yes
Scientific Committee on Antarctic Research and associated working groups	Some	Yes	Yes	No	Yes
Environmental cooperation, including research, clean-ups, protected area proposals, etc.	Yes	Yes	Yes	Yes	Yes
High-level science meetings	No	Yes	Yes	No	Yes
China-Australia Antarctic MoU	No	Yes	Yes	No	Yes
Bilateral logistic meetings	Some	Yes	Yes	No	Yes
Polar Law Conference	No	Yes	Some	No	No
Academic exchanges, including teaching and short courses	No	Yes	Yes	No	No
Antarctic education, undergraduate and postgraduate	No	Yes	Yes	No	No
Logistic cooperation	Yes	No	Yes	Yes	Yes
Scientific cooperation, including exchange scientists	No	No	Yes	Yes	Yes
Ad hoc social contact (e.g. during port visits)	No	No	No	No	Yes
Antarctic Festival	No	No	Yes	No	No

NOTES

- 1 Australian Antarctic Division (AAD), 'Australia hosts Antarctic talks with China', media release, Department of the Environment and Energy, Australian Government, 1 March 2016, [online](#).
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- 3 Department of State Growth, *Schedule on Antarctic gateway cooperation between the Government of Tasmania and the State Oceanic Administration of China*, Tasmanian Government, [online](#).
- 4 Liu Zhen, 'China to begin building first permanent airfield in Antarctica', *South China Morning Post*, 29 October 2018, [online](#).
- 5 Nengye Liu, 'The rise of China and the Antarctic Treaty System?', *Australian Journal of Maritime & Ocean Affairs*, March 2019.
- 6 The Chinese Arctic and Antarctic Administration organises Chinese Antarctic expeditions. The Polar Research Institute of China conducts research in the polar regions, operates research stations, vessels and aircraft and provides logistic support to Antarctic research expeditions.
- 7 'Details of China's nuclear-powered ice-breaker revealed' *The Barents Observer*, 21 March 2019; T. A. Eiterjord, 'Checking in on China's nuclear icebreaker', *The Diplomat*, 5 September 2020.
- 8 'First China-made polar cruise ship tests water', *Xinhua*, 12 March 2019; 'SunStone orders sixth infinity cruise vessel', *The Maritime Executive*, 15 April 2019.
- 9 It now has vastly upgraded avionics and revamped mechanical elements such as hydraulics. While the airframe might be decades old, to be certified to fly it was basically fully modernised.
- 10 Laura Zhou, 'How Chinese access to Chilean port could give Antarctic exploration activities a boost', *South China Morning Post*, 19 September 2019, [online](#).
- 11 The fastest growing source of new visitors to Antarctica is China.
- 12 This is in China's most recent (13th) Five-Year Plan. Anne-Marie Brady, *China as a polar great power*, Cambridge University Press, 2017.
- 13 China is the only state fishing for krill in East Antarctica.
- 14 Anne-Marie Brady, *China's expanding interests in Antarctica*, ASPI, Canberra, August 2017, [online](#).
- 15 China's BeiDou ground receiving and reference stations have been installed at Zhongshan and Kunlun.
- 16 State Oceanic Administration, *China's Antarctic activities*, PRC Government, May 2017.
- 17 'Southern oceans focus of new \$20m research centre', news release, CSIRO, 22 May 2017, [online](#).
- 18 B Packham, 'Security experts warn of military threat from Chinese marine project', *The Australian*, 12 February 2020. The chief executive of CSIRO responded that "with all CSHOR research outcomes available in the public domain, calls for greater transparency about this research are disingenuous." [online](#). The Qingdao National Laboratory for Marine Science and Technology operates the Joint Laboratory for High-end Maritime Equipment (海洋高端装备联合实验室) with the China Shipbuilding Industry Corporation (CSIC), China's largest producer of warships. The Joint Laboratory specialises in underwater delivery equipment and advanced oceanographic surveying equipment. The Qingdao National Laboratory for Marine Science and Technology also operates the Joint Laboratory for Maritime Military-Civil Fusion (海洋军民融合联合实验室) with the Naval Submarine Academy. The Naval Submarine Academy is responsible for training the PLA-N's submariners in undersea warfare, and engages in underwater acoustic engineering, underwater ordnance technology and combat simulation. The authors are grateful to ASPI analyst Charlie Lyons Jones for supplying this information.
- 19 Alex Joske, *Picking flowers, making honey*, ASPI, Canberra, 2018, [online](#).
- 20 See China's 13th Five-Year Plan. Claire Young, 'What's China up to in Antarctica?', *The Strategist*, 20 September 2018, [online](#).
- 21 Parties are able to inspect any part of a station, its equipment and installations. Once they have made an inspection, they submit a paper to the annual Antarctic Treaty Consultative Meeting reporting on the findings of that inspection, including issues regarding access or otherwise to facilities. Inspected parties can, and generally do, then respond to those findings formally at the meeting.

ACRONYMS AND ABBREVIATIONS

AAD	Australian Antarctic Division
ASMA	Antarctic Specially Managed Area
ATS	Antarctic Treaty System
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
China–Australia Antarctic MoU	China–Australia Memorandum of Understanding on Cooperation in the Field of Antarctic and Southern Ocean Affairs
CSIRO	Commonwealth Scientific and Industrial Research Organisation
MoU	memorandum of understanding
NGO	non-government organisation
UN	United Nations

Eyes wide open

Managing the Australia-China Antarctic relationship