

# *Geopolitical scenarios examining the potential for militarisation of Antarctica*

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**Dr Jeffrey McGee**

Associate Professor in Climate Change, Marine and Antarctic Law  
Faculty of Law, University of Tasmania



*Since the formation of the 1959 Antarctic Treaty, the Antarctic Treaty parties have been obligated to ensure the Antarctic remains non-militarised. As a result, Antarctica has often been considered as a region remote from military pressures and entirely devoted to peaceful activities, such as scientific investigation. This paper seeks to challenge this perception, firstly by noting the not insignificant history of military activities in the Antarctic region prior to 1959, and, secondly, by explaining how geopolitical scenario analysis might be used to identify and manage current and future pressures that could lead to militarisation of the region.*

**Key words:** Antarctica; geopolitical scenarios; militarisation; scenario analysis.

The Antarctic continent and surrounding Southern Ocean are a relatively remote region of the planet, far from major centers of human population, industry, arable lands and sites of previous military conflict. The Antarctic continent has no indigenous population and most it was only discovered in the late 19<sup>th</sup> century and early 20<sup>th</sup> century. Large parts of the Antarctic coastline were first mapped only in the 1940s. The discussion of militarisation of Antarctica therefore might be considered by some as a curious topic. Antarctica, a region of about 7 per cent of the Earth's surface, is sometimes perceived as being one area of the globe – whether due to remoteness, extreme climate or other factors – which has been free from military concerns that have shaped other regions of the planet.

It is true that since the formation of the Antarctic Treaty in 1959, the Treaty parties have been legally obligated to ensure the Antarctic region remains free from military activities, that is, remains non-militarised. This might explain the perception that Antarctica is a region used entirely for peaceful activities, such as scientific investigation and tourism. Despite this, however, there is also a regular current of academic and policy writing that strongly expresses the view that militarisation remains a significant threat to the Antarctic region (Brady 2017).

To explore these views, this paper approaches the issue of military activity in Antarctica through both an historic and a future-focused lens. First, this paper provides a brief history of military activities in the Antarctic region prior to formation the Antarctic Treaty in 1959. Second, the paper explains how a geopolitical scenario analysis of Antarctica might be used to create scenarios on Antarctic non-militarisation. Finally, we will briefly look at two scenarios adapted from a recent book on Antarctic geopolitics (McGee *et al.* 2022) to illustrate how the results of scenario analysis might be used to inform thinking about militarisation of the Antarctic region.

## **History of Military Activities in Antarctica**

Despite the sparseness of the human population in the region, during the first half of the 20<sup>th</sup> century Antarctica was not immune from military-related activities. In 1938-39, the years immediately prior to the outbreak of war in Europe, German explorers visited the Atlantic sector of the Antarctic continent in the area of Neuschwabenland (German name), which is now a part of the Norwegian territorial claim, with a view to supporting a territorial claim by Nazi Germany (which never occurred) and furthering the German whaling industry which was hungry for sources of whale oil to diversify German energy sources as World War II loomed on the horizon (Luddecke 2012). During 1941, a German raider<sup>1</sup> in the Weddell Sea area, the *Pinguin*, captured six vessels of a Norwegian whaling fleet and its cargo of whale oil. The British responded by sending an armed merchant cruiser, the *Queen of Bermuda*, to patrol the area of the Southern Ocean between the South Georgias, the South Shetland Islands and the Weddell Sea, to deter further activity by German raiders (Haddelsey 2014).

Since the early 1940s, the Antarctic Peninsula has been subject to overlapping assertions of sovereignty by Britain, Argentina, and Chile, and is the one part of the Antarctic continent that has been the site of overt military tension. In 1942, an Argentine naval expedition took formal possession of several small islands off the coast of the Antarctic Peninsula, including Deception Island. This led in 1943 to the British armed merchant cruiser, the *Carnarvon Castle*, visiting the island to remove Argentinian flags and replace them with British

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<sup>1</sup>German raiders in the Atlantic, Indian and Pacific Oceans in both world wars were usually armed merchant vessels which served as auxiliary cruisers. They raided allied maritime commerce and littoral installations.

flags. A month later, the Argentine naval vessel, ARA *Primero de Mayo*, returned to Deception Island and reinstated the Argentinian flags (Haddelsey 2014).

In the Indian Ocean sector, the then unoccupied Kerguelen Islands, under French sovereignty, were used during World War II as a rendezvous and resting point for German raiders operating in the Atlantic and Indian Ocean areas. Germany had unrealised plans for a German military radio station there also – this led to the Royal Australian Navy laying mines in maritime approaches to the Kerguelen Islands (Blyth 1952).

In 1946-47, the United States Navy conducted a large military training exercise, Operation High Jump, in the Ross Sea area in West Antarctica – involving 13 ships, several aircraft and over 4700 service members. This was primarily a training exercise to acclimatize United States military forces for operations in areas of extreme cold, such as the Arctic, in preparation for possible combat against Soviet forces. United States military aircraft and personnel also carried out significant aerial mapping of the Ross Sea and East Antarctic coastline; and scientific work was conducted during this operation as well. This United States military training activity might have supported a legal claim to territorial sovereignty in the unclaimed area of Marie Byrd Land in West Antarctica. The United States military has supported the US national Antarctic programme through a yearly Antarctic logistics programme, Operation Deep-Freeze, which commenced in the mid-1950s.

In 1952, in another part of the Antarctic Peninsula, Hope Bay, a machine-gun was fired by Argentine naval personnel above the heads of the crew of a British research ship, *John Biscoe*, which was unloading equipment and stores to rebuild a fire-damaged British base. In 1953, back at Deception Island, 35 armed British Royal Marines landed and captured two Argentine sailors and destroyed two huts that been built by Argentina and Chile. During the 1950s, there was also concern that the overlapping claims on the Antarctic Peninsula among Britain, Argentina and Chile could become proxy conflicts, with the United States and Soviet Union being drawn into disputes over these territorial claims by backing one or more of these countries. The 1950s period was thus a politically-charged period in the international system with significant risk of these tensions spilling over to the remote confines of Antarctica.

The international scientific collaboration of the 1957-58 International Geophysical Year (IGY) facilitated expansion of Soviet activity on the Antarctic continent, including establishment of seven research stations in the Australian Antarctic Territory, including the Mirny and Vostock stations, which are still in use. In the tense 1950s Cold War period, there was significant disquiet within the Australian government about these Soviet research stations. Australia was concerned at a continuing Soviet presence on Australia's southern flank that might lead to military bases in Antarctica. The Australian foreign minister at the time, Richard Casey, remarked that: "We do not want the Russians to mount

installations in the Antarctic from which they can drop missiles on Melbourne or Sydney" (Dodds 2017).

The idea of basing military equipment in an inhospitable and remote environment might now appear quixotic. The intense geopolitical competition of the 1950s, however, spurred highly ambitious plans to obtain a military advantage, even in remote areas. For example, the United States military in Project Iceworm, had plans for basing mobile launch sites for nuclear-armed missiles in trenches cut below the icesheet near the Thule airbase in Greenland (Nielsen and Nielsen 2021). In this context, perhaps Australian concerns were not so fanciful.

### The Antarctic Treaty

Concerns over the possible military use of the Antarctic region were largely laid to rest by the twelve Antarctic IGY states – the seven claimants<sup>2</sup>, plus the United States, the Soviet Union, South Africa, Japan and Belgium – forming the Antarctic Treaty at the Washington Conference in 1959. The Antarctic Treaty 1959 should be viewed first and foremost as a peace treaty that stabilised political relations between key states in the region and diffused tensions over territorial claims that had potential to spur security competition and military conflict in the region. Article 1(1) of the Antarctic Treaty states: "Antarctica shall be used for peaceful purposes only" and there "shall be prohibited, *inter alia*, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military manoeuvres, as well as the testing of any weapons". Article 1(2), however, expressly provides that military personnel and equipment may be used in Antarctica to support scientific research and for other peaceful purposes.

Many states, including the United States, Argentina and Australia, have routinely used military transport and logistics capacities to support their national Antarctic programmes. The presence of military equipment and personnel in Antarctica is allowed under the Antarctic Treaty, as long as such equipment and personnel is used in peaceful activities, such as supporting science.

The Antarctic Treaty also has important arms control elements. Article V of the Treaty prohibits any nuclear explosions in Antarctica, whether for military or peaceful purposes. In the 1950s, testing of nuclear weapons in the atmosphere was a high priority for both the United States and the Soviet Union, but finding places on Earth to test these weapons, without risking damage to human health, was becoming increasingly difficult. There were suggestions in United States military circles that, due to its remoteness, Antarctica might be a suitable place for testing of nuclear weapons. Again, such ideas were arguably not quixotic. In 1958, the United States, in

<sup>2</sup>Argentina, Australia, Chile, France, New Zealand, Norway, and the United Kingdom.

Operation Argus, carried out a secret low-yield, high-atmosphere, nuclear test over the Southern Atlantic Ocean (Wolverton 2018). Further, in 1979, in the 'Vela Incident', an American surveillance satellite detected a likely nuclear weapons test near the South African Prince Edward Islands in the Southern Indian Ocean. This is thought to have been a joint undeclared nuclear weapon test by South Africa and/or Israel (Cohen and Burr 2020). Both these secret nuclear tests incidents were undertaken outside the Antarctic Treaty Area, so did not breach Article V. These incidents, however, show the perceived benefits and risks of testing such weapons in remote, southern latitudes, and the important work of the Antarctic Treaty in prohibiting such tests in the Antarctic Treaty Area.

### Geopolitical Scenario Analysis of Antarctica

Article 1 of the Antarctic Treaty appears to have had significant success in preventing any obvious military uses in the area below 60° south latitude. There is no evidence on the public record of overt military activity in Antarctica which would be in breach of the treaty. Military forces of various Antarctic states are involved each summer in providing transport and logistics support for national Antarctic science programmes, but there is no evidence on the public record that these military forces are being used outside of these peaceful purposes. The Antarctic Treaty, however, may not continue to provide a de-militarised zone on Australia's southern flank in perpetuity. The non-militarisation provisions of the Antarctic Treaty need to be carefully supported.

One way to provide support is to use the techniques of scenario planning analysis, as used in broader fields such as strategic and business studies, to generate scenarios on plausible geopolitical futures for Antarctica. The following scenario discussion draws on a recent book-length exposition of this topic (McGee et al. 2022). A scenario planning analysis can provide a more structured approach to futures analysis of Antarctica and can add to the conversation on the geopolitical future of the continent.

To carry out this scenario planning analysis, McGee et al. (2022) went through a process of identifying 49 key driving forces for Antarctic geopolitics which ranged across nine domains- political, economic, social, technological, environmental, legal, geographic, strategic, and historical. These 49 key driving forces were then ranked in terms of their *importance* and *uncertainty*, thereby allowing the identification of two key critical *uncertainties* for the future of Antarctic militarisation, being the level of:

#### 1. *Stability of the international system*

This first critical uncertainty highlights the level of geopolitical tension and uncertainty within the wider international system and the extent to which this might spillover into the Antarctic Treaty area and Antarctic Treaty fora. The Antarctic Treaty System has experienced shocks from significant wider conflicts within the international system, e.g. during the 1982 Falkland

Islands/Islas Malvinas armed conflict, and during the 2022-23 armed conflict in Ukraine. Such conflicts could spill over and affect relations between Antarctic Treaty states and their relations at Antarctic Treaty meetings. At a more subtle level, this critical uncertainty also is concerned with the extent to which wider geopolitical contestation, for instance tension between great powers – such as the United States and China– might spill over to affect relations in Antarctic Treaty fora and in the Antarctic region more generally.

#### 2. *Strategic advantage from Antarctic military activity*

The second critical uncertainty identified to generate the geopolitical scenarios was the level of strategic advantage that states might gain from Antarctic militarisation. As mentioned previously, Antarctica is a remote and difficult place in which to operate military equipment and personnel. If there is no obvious strategic advantage in conducting military activities in the Antarctic Treaty area, it is safe to assume that, with limited defence budgets and resources, states will prefer to carry out such military activities in other places where it is easier and more cost effective. So, a key critical uncertainty for the future of Antarctic militarisation is the extent to which there is an obvious benefit in conducting military activities in the Antarctic region, which cannot be obtained more cheaply and conveniently by operating in other parts of the world.

### Scenarios Pertaining to Possible Future Militarisation of Antarctica

In McGee et al. (2022), the above two critical uncertainties were then plotted on a 2 x 2 matrix with high and low values for each. This generated four scenarios of future Antarctic militarisation titled as follows:

- **Splendid Isolation:** a scenario with high stability of the international system and low strategic advantage of Antarctic militarisation – the best possible world in terms of keeping military activity outside of Antarctica;
- **Quarantine:** a world of low stability in the international system and low strategic advantage in Antarctic militarisation – this is a more dangerous world in that there are increased risks of spillover of wider tensions in the international system, but the low strategic advantage provided by Antarctic militarisation offsets this risk;
- **Stealth:** a world of high stability in the international system, and high strategic advantage in militarising Antarctica – this is a world without severe risks of wider international conflict spilling over into the Antarctic Treaty system, but also a world in which a high and increasing incentive for military activity in the Antarctic region leads to a subtle and creeping militarisation of the region;
- **Cold War II:** a darker world of low stability in the international system coupled with high strategic advantage in carrying out military activities in the



Antarctic region, – perhaps as the result of great power competition in international system with spillover effects into the Antarctic Treaty fora and region combined with a significant incentive to carry out military activities in the Antarctic region as it offers advantages for military activities not available by operating elsewhere.

In order to bring the scenarios of Antarctic futures to life, the final step in the McGee *et al.* (2022) analysis created four narratives, which are essentially hypothetical short stories that try to evocatively portray what the world envisioned by each scenario. The purpose of these scenario narratives is not to predict the future, but rather to present plausible futures of Antarctic militarisation that can be used to better think through policy responses today and build capacity to manage the pressures of Antarctic militarisation in the future. With this in mind, below are abridged versions of two of the scenario narratives from McGee *et al.* (2022) that give a sample of how this scenario analysis might be used to generate plausible futures. These two scenarios are probably the most evocative, in the sense that they illustrate the best and the worst future worlds that we might plausibly envisage in respect to militarisation of Antarctica.

#### ***Narrative 1: ‘Splendid Isolation’***

This scenario illustrates a low level of tension in the international system from great power competition, coupled with a low level of strategic/military advantage in taking military action in Antarctica.

*The early 2020s saw rising international tension between China, Russia, and the United States, during the loss of life and economic disruption caused by the COVID pandemic and Ukraine crisis. The two-term United States presidency of Joe Biden from 2021 onwards, and successful COVID vaccination programmes in most countries over 2022–23, settled the more severe aspects of these tensions by late 2025.*

*The Antarctic Treaty Consultative Meeting (ATCM) has been unaffected by this period of great power tension. Consensus decision-making within the ATCM and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) meetings continues to function well, except in relation to proposals for marine protected areas near the Antarctic continent. However, the Parties to the Antarctic Treaty and CAMLR Convention have been able to isolate lack of consensus to those issues, so that the otherwise largely co-operative working relationship of states within the Antarctic Treaty system (ATS) has prevailed.*

*By the mid-2020s, technological developments in ocean sensors, satellite technologies, infrared telescopes, satellite ground stations and global positioning systems have advanced incrementally, meaning that their military applications for situational awareness and command-control-communication-reconnaissance (CCCR) functions are moderately*

*more attractive. These technological developments have not led to any significant increase in the advantages of developing such capacity in the Antarctic Treaty area (ATA). States such as China and the Russian Federation, which have alternate networks to the United States-controlled global positioning system (GPS) system, have invested in placing equipment in friendly developing countries in Africa and South America. Equipment in these temperate latitudes now provides similar performance to the equipment placed within the Antarctic area. As allowed under the Antarctic Treaty, states have continued to use military personnel for logistical support of research bases and scientific work on the Antarctic continent and in the Southern Ocean.*

*In 2026, consensus was reached within the ATCM on a new legally binding transparency measure that will allow Antarctic Treaty states to request ‘macro data’ on the type and nature of all information received, transmitted, and produced from radio-telescopes, infrared telescopes, satellite ground stations, and ocean sensors operated in the ATA. This new measure was agreed between the Antarctic Treaty Consultative Parties (ATCPs) due to concerns about possible ‘dual use’ of space research facilities and ocean sensors; that is, short-term repurposing between scientific and military use. In reaching consensus on this transparency measure, the ATCPs reaffirmed the importance of Article I of the Antarctic Treaty and the prohibition of activities of a military nature. The Parties agreed that the nature of military activities in the 2020s had broadened in scope from the use of military ships, troops, and aircraft in Antarctica – as anticipated by the drafters of the Treaty in the late 1950s. The potential for equipment such as infrared telescopes, radio-telescopes, ocean sensors, and ground station receivers to be used in global networks of military CCCR capacities was openly acknowledged.*

*As a part of the inspection process in the Antarctic Treaty, leading states such as China, Germany, Russia, and the United States have requested macro-data relating to the use of infrared telescopes, ground station receivers and ocean sensors used by other states in Antarctica. Analysis of this macro-data has not yet raised any specific concerns regarding re-purposing of such equipment for use in military CCCR systems, but the new transparency measure gives confidence that illegal uses will be detected.*

#### ***Narrative 2: ‘Cold War II’***

This scenario illustrates a more alarming future of high international tension among the great powers, and high strategic advantage in states engaging in military activities in Antarctica.

*In the early-mid 2020s, competition between China, Japan, India, Russia, and the United States increases significantly due to tensions over maritime*

claims in the South China Sea, Taiwan, and tensions in the Black Sea from the Ukraine conflict. Russia and China have solidified an overt strategic partnership which seeks to challenge the post-World War II 'rules-based order' – particularly where these rules conflict with greater resource access in the Arctic, Antarctica, Outer Space, and the deep seabed. In the Indo-Pacific region, 'The Quad' partnership of Australia, India, Japan, and the United States, expands to include new members Indonesia and New Zealand.

In 2026, during a routine inspection of equipment at an Antarctic research station of a prominent Antarctic state, an Australian inspection team detects that radio telescopes and infrared telescopes are being used to track the location of polar-orbiting satellites of other states. This has been done to provide targeting information to military CCCR capacities of the military forces of this prominent Antarctic state, including information that might be used to disable polar orbiting satellites. The military forces of this prominent Antarctic state are located outside the ATA, but communications from the radio telescopes and infrared telescopes at the inspected station can be relayed to terrestrial missile batteries in the northern hemisphere, and/or killer satellites in orbit, which are designed to shoot down, or disable, the satellites of other states.

In 2026, Australia raises this issue with the prominent Antarctic state by diplomatic channels, but is rebuffed. The prominent Antarctic state argues that passive military activity is allowed in the ATA, as long as there is no use of force which breaches the UN Charter. The prominent Antarctic state argues that the restriction on military activity in the ATA has always been qualified by a state's inherent right of self-defence. This right of self-defence allows for military (or civilian) equipment and personnel located in the ATA to be used in military activities in defence of the nation.

In 2027, support for the legitimacy of this 'defensive' military activity within the Antarctic Treaty area has triggered an upswing in the scale and type of 'dual-use' equipment being used at Antarctic research bases. This has led to a more open use of infrared telescopes and ground station receivers for military communications and intelligence gathering to support defensive military operations, including defensive military operations occurring in areas far outside the ATA.

## Conclusion

Scenario analysis is not intended to predict the future. Instead, it provides a methodology to generate a range of plausible futures regarding a particular issue. The value of scenario analysis is in providing policymakers and participants in public debate with rigorously constructed narratives of plausible futures that can initiate creative thinking on how to manage such issues down a desirable path.

The scenario narratives of 'Splendid Isolation' and 'Cold War II' represent the extreme points of a desirable and an undesirable future on the issue of Antarctic militarisation. These scenario narratives, hopefully, will be of assistance to policymakers and others in thinking about the militarisation pressures that might come to bear upon the Antarctic Treaty from technological developments, particularly in space technologies.

It will be important in the future, therefore, for policymakers to consider how existing provisions of the Antarctic Treaty, such as the inspection mechanism, might be better used to head off a path of militarisation of the Antarctic Treaty area.

## The Author

Associate Professor Jeff McGee is located at the Institute for Marine and Antarctic Studies and Faculty of Law at University of Tasmania. His research is focused on the international law and geopolitics of the oceans, climate change, and Antarctica.

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**Abbreviations:** ATA, ATP, ATS = Antarctic Treaty area, Atlantic Treaty parties, Atlantic Treaty System; CCAMLR = Commission for the Conservation of Antarctic Marine Living Resources; CCCR = command-control-communications-reconnaissance; CU = critical uncertainty.