

## CHINA'S EXPANDING ANTARCTIC INTERESTS: IMPLICATIONS FOR NEW ZEALAND

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China is rapidly expanding its activities in Antarctica and some of its behaviour appears to breach the terms of the Antarctic Treaty. New Zealand must rethink its assessment of risk in Antarctica and devise a strategy to protect its interests there.

### Key findings

- Some of China's interests and activities in Antarctica, which include undeclared military activities and mineral exploration, may be at odds with New Zealand strategic interests and they potentially breach international law.
- China is rapidly expanding its presence in a triangle-shaped area it calls the "East Antarctic Sector" and has stated in policy documents that it reserves the right to make a claim in Antarctica.
- New Zealand must rethink its assessment of risk in Antarctica and devise a strategy to protect its interests there.

### Executive summary

China has rapidly expanded its activities in Antarctica and the Southern Ocean in recent years. The 2016 White Paper on Defence defines China as a "key strategic partner" for New Zealand.<sup>2</sup> New Zealand has strong and expanding relations with China; while our top trading partners also have China as their major market. New Zealand benefits hugely from the economic opportunities associated with China's economic growth. At the same time, China's economic growth has funded a dramatic expansion in military capabilities and is challenging the longstanding strategic order in Northeast Asia and the Indo-Asia-Pacific. This is of direct concern to New Zealand; we have a critical

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<sup>2</sup> New Zealand Government, Department of Defence, Defence White Paper 2016, p. 33, <http://www.defence.govt.nz/assets/Uploads/defence-white-paper-2016.pdf>



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interest in the maintenance of regional security and have benefited from existing security arrangements.<sup>3</sup>

The focus of New Zealand's relationship with China in the last 9 years has been on economic issues, but the time has come to face up to the difficult political challenges in the relationship. Some of China's interests and activities in Antarctica appear to breach the terms of the Antarctic Treaty and have the potential to undermine New Zealand's stated interests there. New Zealand has a 15 percent territorial claim in Antarctica, the Ross Dependency, and relies on the Antarctic Treaty to protect its interests in Antarctica. As the 2016 White Paper on Defence noted: "It is a fundamental duty of any New Zealand government to protect the country's people and its resources [and] to maintain New Zealand's right of sovereignty in the Ross Dependency of Antarctica."<sup>4</sup> New Zealand has an enduring commitment to the Antarctic Treaty System, which sets the rules and norms governing state behaviour in Antarctica.<sup>5</sup>

China's core agenda and activities in Antarctica have a direct connection to China's maritime interests and expanding forward defence capabilities in the Indo-Asia-Pacific. These growing capabilities directly affect New Zealand's broader strategic interests, along with those of the government's strategic partners in the region. To raise these concerns is not "conjecture",<sup>6</sup> it is based on solid evidence, the result of ten years of research into official Chinese sources and extensive interviews.<sup>7</sup>

Antarctic geopolitics are shifting rapidly and the clash between those states who promote environmental protection in Antarctica and those who are focused on accessing available resources there is becoming more acute. China has undeclared military activities in Antarctica, is building up a case for a territorial claim, and is engaging in minerals exploration there. New Zealand needs to reassess its approach to how it deals with China on Antarctic issues. This is all the more urgent because from May 22-June 2, 2017 the 40th Antarctic Treaty Consultative Meeting will be held in Beijing and China will be trying to push through approval for key policy goals which will have a long term impact on New Zealand's interests.

New Zealand's Antarctic policy is laid out in the 2002 NZ Statement of Strategic interest in Antarctica: New Zealand is committed to conservation of the intrinsic and wilderness values of Antarctica and the Southern Ocean, for the benefit of the world community and for present and future generations of New Zealanders. This will be reflected in active and responsible stewardship, under the Antarctic Treaty System, that promotes New Zealand's interest in: national and international peace and security through a commitment to keeping Antarctica peaceful, nuclear free and its environment protected; continued influence in Antarctic governance through maintaining an effective role in the Antarctic Treaty system, and maintaining its long-term

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<sup>3</sup> Defence White Paper 2016, 25.

<sup>4</sup> Defence White Paper 2016, 19; see also "Antarctica: 1965 to present", <http://www.army.mil.nz/about-us/what-we-do/deployments/previous-deployments/antarctica/default.htm>.

<sup>5</sup> Defence White Paper 2016, 29.

<sup>6</sup> See comments of Antarctica New Zealand Programme Support Supervisor Simon Trotter, "Chinese icebreaker visit prompts hopes for New Zealand gains in Antarctic exploration," TVNZ, January 15, 2015, <https://www.tvnz.co.nz/one-news/new-zealand/chinese-icebreaker-visit-prompts-hopes-for-nz-gains-in-antarctic-exploration-6219663>.

<sup>7</sup> This special report draws on Anne-Marie Brady, *China as a Polar Great Power* (Cambridge University Press/Wilson Press, 2017).



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interest, commitment to and credible presence in the Ross Dependency; supporting and where appropriate leading, high quality Antarctic and Southern Ocean science that benefits from the unique research opportunities provided by Antarctica; demonstrating and advocating for best practice in environmental stewardship and all other activities throughout Antarctica, and in particular the Ross Sea region; ensuring that all activity is undertaken in a manner consistent with Antarctica's status as a natural reserve devoted to peace and science.<sup>8</sup>

New Zealand has facilitated China's expansion in Antarctica from the early 1980s on,<sup>9</sup> and is now encouraging China's expansion in the Ross Sea area and for China to use Christchurch as the hub for these activities.<sup>10</sup> But the time has come to take a close look at the extent to which New Zealand's interests in Antarctica and China's interests there converge, and where they are at odds.

China is now a member of a unique club of nations, the polar states: those few countries who are powerful at the Arctic and the Antarctic. Polar states are the global giants, strong in military, scientific, and economic power. The concept of a polar great power is relatively unknown in international relations studies. Yet China, a rising power globally, is now widely using this term to sum up its aspirations and symbolise the significance of the polar regions to China's national interests. Chinese President Xi Jinping first publically referred to China as a polar great power (jidi qiangguo) when he visited Australia in November 2014; but his officials raised the term in public in 2005.<sup>11</sup> China has global interests and is well on the way to becoming a global great power. In order to succeed in this evolution it must be dominant in the polar regions. China's leaders view their country's expanding polar presence as a way to demonstrate China's growing global power, and to achieve international recognition for this new status.<sup>12</sup> In the Chinese political system polar affairs are part of maritime affairs, thus becoming a polar great power is a key component of China's maritime strategy.<sup>13</sup> In 2015, the Chinese government identified the polar regions, the deep seabed, and outer space as China's new strategic frontiers, noting that they are ripe with opportunities and open to all states with the capacity to exploit them.<sup>14</sup> As China's comprehensive national power grows, the government is taking advantage of every available opportunity in these three zones.

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<sup>8</sup> "New Zealand Statement of Strategic Interest in Antarctica Revised 2002," New Zealand Yearbook of International Law 14; (2004) 1, 219, <http://www.nzlii.org/nz/journals/NZYbkIntLaw/2004/14.html>; this is the key public statement on New Zealand's Antarctic policy, see <https://www.mfat.govt.nz/en/environment/antarctica/>

<sup>9</sup> "Implications of Potential Base Sites in the Ross Sea Region," DSIR, INT 8/1/1, 1984, Archives New Zealand, Christchurch; "PRC Offered Permanent Antarctic Research Base," Xinhua (English), April 10, 1984, FBIS BK101247.

<sup>10</sup> Michael Wright, "Crystallising an Antarctic strategy," Stuff, December 26, 2015, <http://www.stuff.co.nz/national/75404894/crystallising-an-antarctic-strategy>.

<sup>11</sup> "Ben bao jizhe zhuanfang Zhongguo jidi yanjiu zhongxin fuzhuren Yang Huigen boshi wo guo yunliang quanqiu kaocha" [A discussion with PRIC deputy director Yang Huigen about China's polar expeditions], Dalian wanbao, December 5, 2005, <http://news.sina.com.cn/s/2005-12-05/00437617786s.shtml>.

<sup>12</sup> "Chen Lianzeng fu juzhang chuxi Zhongguo jidi kaocha gongzuo zixun weiyuanhui di 13 ci huiyi" [Vice Director Chen Lianzeng attends 13th meeting of the China Polar Expedition Work Group], State Oceanic Administration, May 20, 2011, [http://www.mlr.gov.cn/xwdt/hywxw/201105/t20110520\\_868036.htm](http://www.mlr.gov.cn/xwdt/hywxw/201105/t20110520_868036.htm).

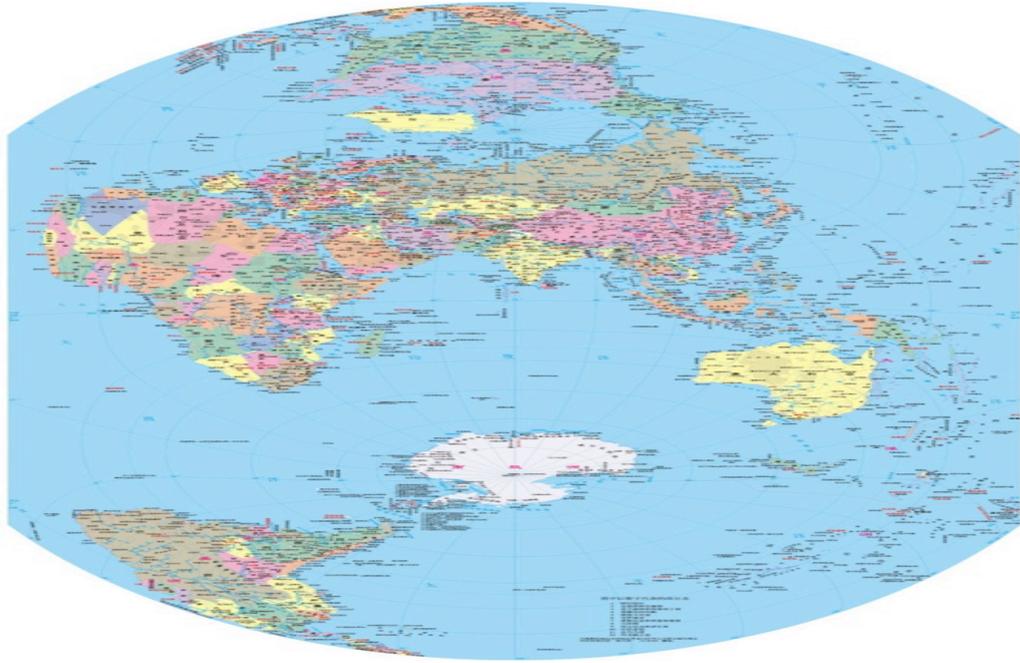
<sup>13</sup> "2013 Zhongguo jidi kexue xueshui zhaokai" [2013 polar conference at the Chinese Academy of Science begins], Polar Research Institute of China (PRIC), September 26–29, 2013, accessed November 19, 2013, <http://www.pric.gov.cn/detail/News.aspx?id=1440d741-0486-4ab1-a6db-60e717df893e> (link discontinued).

<sup>14</sup> "Guojia anquan fa cao'an ni zengjia taikong deng xinxing lingyu de anquan wei hu renwu" [The draft national security law will increase security in space and other new areas], Xinhua, June 24, 2015, <http://www.chinanews.com/gn/2015/06-24/7363693.shtml>.



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China's vertical world map, an official map used since 2004 by China's State Oceanic Administration to chart voyages to the Arctic and Antarctic and, since 2006, by the People's Liberation Army (PLA) as an official military map, was released to the public in 2014. The new world map highlights the centrality of the polar regions and the connectivity of the oceans surrounding the World-Island.<sup>15</sup>

China's focus on becoming a polar great power represents a fundamental re-orientation—a completely new way of imagining the world. The polar regions, the deep seabed, and outer space are the "new" New World where China will draw the resources to become a global power. Access to these areas' resources and opportunities is essential for China's continued growth, prosperity, and political stability.<sup>16</sup>

This special report focuses on China's Antarctic interests. Antarctica, rich in resources and with unresolved sovereignty, is extremely important to China. The findings of the report raise questions about the extent to which China's position on key aspects of Antarctic governance and its range of interests and activities there are complementary with New Zealand interests and whether the New Zealand government's strategies for maintaining its broader foreign policy interests in the Ross Dependency serve it for dealing with present-day realities in Antarctica and the Southern Ocean. New Zealand can't stop China's expansion in Antarctica, but it is time to examine the wisdom of the extent to which we are facilitating it.

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<sup>15</sup> Used with permission of the map designer.

<sup>16</sup> Zhongyang dangxiao shenbuji ganbu jinxiuban (di54qi), "Zhongguo kuangchan ziyuan anquan zhanlue yanjiu" [Research on China's strategic mineral resources strategy], China University of Mining and Technology, May 28, 2014, <http://zsd.cumt.edu.cn/09/37/c863a67895/page.htm>; "Fangwen Zhongguo Nanji kaocha shouxi kexuejia: wei shenme qu Nanji" [Interview with China's chief polar scientist: why go to Antarctica], Sina.com, December 5, 2005, <http://tech.sina.com.cn/d/2005-12-05/1202782841.shtml>.



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## What should be done?

New Zealand needs to face up to the new strategic environment in Antarctica, the challenges in maintaining its interests in Antarctica, and to reassess the risk. The heightened attention to Antarctica and the Southern Ocean in the 2016 White Paper on Defence, the plans for a stepped up investment in New Zealand Defence Force Antarctic capabilities, and further initiatives to maintain a credible presence in Antarctica through budgetary increases to Antarctica New Zealand are a step in the right direction. However, they will be insufficient to maintain New Zealand's policy priorities of: maintaining New Zealand's right of sovereignty in the Ross Dependency,<sup>17</sup> and the commitment to keeping Antarctica peaceful, nuclear free and its environment protected.<sup>18</sup> Previous calculations have not had access to detailed evidence of China's military activities in Antarctica, its efforts to build up a case for a territorial claim, or its extensive minerals exploration activities.

New Zealand can respond to the new strategic environment by expanding and deepening its Antarctic capacity and institutional expertise, increasing the brief of government agencies with existing Antarctic capacity, partnering with like-minded countries to raise China's potential breaches of the Antarctic Treaty at the Antarctic Treaty Consultative Meeting and other diplomatic fora, and offer assistance to China to better meet the terms of the Antarctic Treaty. Speaking out on the military-use capabilities of China and other states in Antarctica will ensure that the continent remains peaceful.

New Zealand must stop hovering at the crossroads of the changing global order and respond to the new challenges it poses. As the 2016 White Paper on Defence noted, US global influence is continuing to decline.<sup>19</sup> This has escalated considerably under the Trump administration. China is stepping into the power vacuum of global leadership, preparing to shape the new world order and protect international security.<sup>20</sup> There are many advantages for New Zealand of China's more proactive foreign policy, but also some distinct disadvantages. As a small state—one with the world's fourth largest maritime zone, significant maritime responsibilities through our Pacific partnerships and search and rescue (SAR) responsibilities, and as a nation with an existing claim in Antarctica—China's flouting of international maritime law in the South China Sea, apparent disregard of Antarctic Treaty rules, and efforts to exploit gaps in maritime and polar governance, should be of concern.

With careful diplomacy and strategic investments in capacity, New Zealand can better manage its economic and political relationship with China, while protecting its own national interests. New Zealand can also do a lot more to partner with Australia and other like-minded states in the Asia Pacific, in Oceania, as well as in Southeast Asia, to protect its interests both in Antarctica and in the Indo-Asia-Pacific.

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<sup>17</sup> Defence White Paper 2016, 19.

<sup>18</sup> "New Zealand Statement of Strategic Interest in Antarctica Revised 2002."

<sup>19</sup> Defence White Paper 2016, 50.

<sup>20</sup> "Xi Jinping ti "liangge yindao" you shenyi" [The profound significance of Xi Jinping's first mention of 'double guidance'], CCP Central Party School, February 21, 2017, <http://www.ccln.gov.cn/hotnews/230779.shtml>.



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## China's expanding Antarctic capacity and interests

China's official definition of Antarctic sovereignty is that it is "a continent with no attribution of sovereignty" (zhuquan meiyou guishu de dalü).<sup>21</sup> Article IV(1) of the Antarctic Treaty deals with the issue of Antarctic sovereignty claims by putting them on hold. China's official stance on the Antarctic Treaty and its associated agreements is that they are currently the best means to safeguard China's interests and to ensure stability and security in Antarctic affairs. The Antarctic Treaty is very advantageous to the major powers. It enables any country with the requisite economic might unfettered access to the whole of the Antarctic continent and ocean without having to consider the rights of the seven claimant states. China's view is that for the next twenty to thirty years, the Antarctic Treaty will continue to suit their interests, giving them plenty of time to prepare their capacity to assess what minerals exist there and the challenges involved in extracting them.<sup>22</sup>

In an area of undetermined sovereignty a state may construct a case to argue for sovereignty rights by means of discovery, by naming geographical sites and mapping, and by continual presence and occupation. Since 2005 China has expanded and deepened its physical presence in Antarctica through new bases, made significant geographical discoveries, and named hundreds of sites. In just over a decade, as a result of a massive budget increase for polar capacity projects, China has gone from being a minor player in the polar regions to becoming a major actor. China now has more money than any other polar state to spend on new infrastructure such as bases, planes, and icebreakers. Since 2015 China has had fully self-sufficient air, land, and sea capabilities in Antarctica,<sup>23</sup> one of only a handful of states in Antarctica who have this level of capabilities. In the last ten years China has doubled its number of bases in Antarctica and its icebreaker has circumnavigated the continent twice. Expanding China's presence in Antarctica is understood by the government as a means to establish the necessary physical foundations for China's Antarctic resource rights, Antarctic governance rights, and the future opening up of resources.<sup>24</sup> As stated by a senior Chinese polar official, "one of the key goals" of China's Antarctic scientific activities is to extend China's presence.<sup>25</sup>

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<sup>21</sup> CAA, "Nanji tiaoyue zhong dui Nanji lingtu zhuquan yaoqiu de sanzong quanli" [Triple rights on sovereignty in Antarctica in the Antarctic Treaty], China.com.cn, n.d., <http://www.china.com.cn/chinese/zhuanti/nk/733765.htm>.

<sup>22</sup> Wu Yilin, "Cong Nanji tiaoyue tixi yanhua kan kuanchuan ziyuan wenti" [Looking at the extension of the Antarctic Treaty system from the point of view of resources], *Haiyang daxue xuebao* (Shehui xue bao) 5, no. 5 (2009), 13; Ding Huang ed, *Jidi guojia zhengce yanjiu baogao 2013–2014*, [Annual report on national polar policy research 2012–13] (Beijing: Kexue chubanshe, 2013), 33.

<sup>23</sup> "Wo guo jidi kaocha jiang xin gou feiji xinjian pobingchuan [China's polar expedition will purchase new airplane and icebreaker], *Xinhua*, February 3, 2014, <http://tech.sina.com.cn/d/2014-02-03/11279140668.shtml>.

<sup>24</sup> "Zhongguo zai Nanji guojia liyi qianxi" [Analysis of China's national interests in Antarctica], *Jidi zhanlue yanjiu dongtai* 1 (2012): 16; Wu Jun, "Wo guo jidi kaocha zuzhi guanli jizhi youhua yanjiu" [Research on improving China's polar expedition organizational management] (Master's thesis, Wuhan University, 2005), 34. Wu Jun is the Deputy Director of the Chinese Arctic and Antarctic Administration and the thesis was written while he was in this role. See also similar comments that Wu made in an October 2009 interview, "Guojia Haiyang ju jidi ban jieshao geguo Nanji kaocha huodong jinzhan" [SOA CAA reports on various states' Antarctic expeditions], *Xinhuashe*, October 15, 2009, <http://env.people.com.cn/GB/10197601.html>; and similar points made in a 2012 report, *Guojia haiyangju haiyang fazhan zhanlue yanjiusuo ketizu*, ed., *Zhongguo haiyang fazhan baogao* [Report on China's maritime development] (Beijing: Haiyang chubanshe, 2012), 363.

<sup>25</sup> "Chen Lianzeng: Zengqiang woguo zai Nanji de shi zhi xing cunzai" [Chen Lianzeng: Increase China's substantive presence in Antarctica], *Xinhua*, January 2, 2006, [http://news.xinhuanet.com/world/2006-01/02/content\\_4000473.htm](http://news.xinhuanet.com/world/2006-01/02/content_4000473.htm).



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site.<sup>28</sup> The site China chose, Inexpressible Island, in Terra Nova Bay, was one on the list of seven possible new base site locations in the Ross Sea area that the New Zealand government had given to China in 1984, in the hope of getting the Chinese authorities to recognize New Zealand's territorial rights in the Ross Dependency.<sup>29</sup> In 2013, China Arctic and Antarctic Administration (CAA) head Qu Tanzhou told journalists that the new base site had been selected because the Ross Sea area will be "one of the hottest locations in Antarctica" in the future.<sup>30</sup> Senior polar glaciologist Sun Bo stated that the new base was located close to areas of "resource potential,"<sup>31</sup> and the Polar Research Institute of China's internal newspaper stated that "resource exploration and climactic studies" would be the main tasks of the base.<sup>32</sup>

China's fifth base will be a permanent all-year station. As a result, China was required to submit a Comprehensive Environment Evaluation (CEE) report to the Antarctic Treaty's Committee for Environmental Protection, and receive and respond to the feedback of other Antarctic states with a final CEE to be issued sixty days before it began work on the new base. China's draft CEE for the new base was published in January 2014. The draft CEE did not mention China's interest in exploring minerals or other resources in the Ross Sea area; instead, it highlighted climate change research, space science, and remote sensing as key projects.<sup>33</sup> China's final CEE has still not been released. In January 2015 a team of Chinese polar personnel deposited ten tons of material, setting up prefabricated accommodation, and built a temporary wharf.<sup>34</sup>

In early 2016 a team of Chinese scientists set up an automatic weather station at the base site and engaged in further site surveying.<sup>35</sup> Soon after this expedition ended, Chinese polar officials quietly announced to Antarctica New Zealand and other agencies that China was rethinking the location of the new base. The delay in finalising the base site was due to three factors: a new leadership team at the State Oceanic Administration which wanted to review China's polar plans and priorities; the need to deal with objections raised by US and New Zealand in the first CEE that the base was not

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<sup>28</sup> "Yongshi di ba tian ba ye—cehui duiyuan xinjian Nanji ke kao Zhan Xian zhi jib" [Warriors 8 days and 8 nights: Mapping team reminisce on the siting of the new Antarctic station], The Central People's Government of the People's Republic of China, March 1, 2013, [http://www.gov.cn/gzdt/2013-03/01/content\\_2343061.htm](http://www.gov.cn/gzdt/2013-03/01/content_2343061.htm).

<sup>29</sup> "Implications of Potential Base Sites in the Ross Sea Region," DSIR, INT 8/1/1, 1984, Archives New Zealand, Christchurch; "PRC Offered Permanent Antarctic Research Base," Xinhua (English), April 10, 1984, FBIS BK101247.

<sup>30</sup> "Zhongguo jihua "shi'erwu" xinjian yizhi liang ge Nanji kaocha Zhan" [China plans one to two new bases in second five year plan], Xinhua, January 8, 2013, accessed January 8, 2013, <http://news.hbtv.com.cn/2013/0108/185695.shtml> (link discontinued).

<sup>31</sup> "Nanji nei lu kaocha kaizhan xuanze xin zhan zhi gongzuo" [Inland Antarctic expedition undertakes to select a new station site], Zhongguo haiyang bao, December 31, 2012, [http://www.soa.gov.cn/xw/dfdwdt/jsdw\\_157/201212/t20121231\\_23478.html](http://www.soa.gov.cn/xw/dfdwdt/jsdw_157/201212/t20121231_23478.html).

<sup>32</sup> Jidi zhongxin bao, 5 February 2013, p. 3.

<sup>33</sup> Polar Research Institute of China and Tongji University, "Proposed Construction and Operation of a New Chinese Research Station, Victoria Land, Antarctica: Draft Comprehensive Environmental Evaluation," CAA, January 10, 2014, [http://www.chinare.gov.cn/en/download/DRAFT\\_CEE2014.pdf](http://www.chinare.gov.cn/en/download/DRAFT_CEE2014.pdf) (accessed January 31, 2014).

<sup>34</sup> "Wo guo kaishi zai Nanji Weiduoliya di jichu choubei di wu ge kaocha zhan" [China begins preparatory surveying for the 5th Antarctic Base in Victoria Land], Renminwang, January 6, 2015, <http://scitech.people.com.cn/n/2015/0106/c1007-26334885.html>; and Chinese polar official, interview with author, February 2015.

<sup>35</sup> "Zhongguo di wu ge Nanji kaocha zhan xuan zhi queding: Renlei hanghai jixian" [China's fifth Antarctic site identification at the edge of the ocean], Guangming ribao, February 18, 2016, <http://tech.huanqiu.com/news/2016-02/8564120.html>.



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necessary from a scientific point of view; and an assessment of scientific priorities for the new base.<sup>36</sup> Funding has been approved for the new base and officials have said it will be built within the next five years. China will be looking for support from the other Antarctic Treaty Consultative Parties before it begins construction. This makes the Antarctic Treaty Consultative Meeting being held in Beijing from May 22-June 2, 2017 extremely important for the Chinese government.

China's bases are all in areas of Antarctica that it has identified as strategically important and rich in resources. The Chinese National Development and Reform Commission document authorizing the budget for China's expanding presence in Antarctica emphasized that doing so will enhance China's "political, economic, diplomatic, and military" interests on the southernmost continent.<sup>37</sup>

In the last ten years, China has worked to extend its presence over a triangular area of East Antarctica. Three of China's Antarctic bases, three of its air fields, and its field camps in the Grove Mountains and Gamburtsev mountains are in this sector; which is within the existing Antarctic territorial claim of Australia. Through its advanced logistics capabilities, China is able to project its power and continually maintain its presence in this area of Antarctica, something Australia, with its much more limited Antarctic capacity cannot do.



Map shows China's main area of activity in Antarctica, what it calls the East Antarctic Sector.<sup>38</sup>

<sup>36</sup> Interview with China polar programme staff member.

<sup>37</sup> "Fagai touzi (2005) 1361 hao" [National Development and Reform Commission (2005), no. 1361], reproduced verbatim in "Jidi kaocha 'shiyu' nengli jianshe ji 'shiyiwu' fazhan guihua gongzuo" [Polar expedition "10th Five-Year Plan" capacity-building and "11th Five-Year" development planning], Zhongguo haiyang bao, August 11, 2008, <http://www.oceanol.com/keji/jddy/9463.html>.

<sup>38</sup> International Polar Foundation, "Zhongshan Station: Hub of Chinese Scientific Research in East Antarctica," International Polar Year 2007–2008, December 10, 2008, [http://www.ipf.org/index.php?/ipy/detail/zhongshan\\_station\\_hub\\_of\\_chinese\\_scientific\\_research\\_in\\_east\\_antarctica](http://www.ipf.org/index.php?/ipy/detail/zhongshan_station_hub_of_chinese_scientific_research_in_east_antarctica)



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China first decided to focus on this sector of Antarctica in 1998, as part of the “East Antarctic Sector Strategic Research Vision” (Dong Nanji da duanmian yanjiu zhanlüe).<sup>39</sup> A rare public image of China’s “East Antarctic Sector” was revealed in the documents associated with China’s participation in the International Polar Year 2008–9. During the IPY, China referred to this area as “PANDA,” standing for Prydz Bay, Amery Ice Shelf, and Dome A. In the austral summer of 2015, a team of Chinese and foreign scientists conducted extensive remote sensing, zigzagging back and forth via airplane within the precise boundaries of the “East Antarctic Sector” recording every physical feature.<sup>40</sup>

China’s dominance in this area is further strengthened by a dedicated traverse route from China’s Zhongshan Station to Dome A via Taishan Station. Chinese scientists have nicknamed this route “China Boulevard” (Donghua dajie).<sup>41</sup> In 2013, China put in a proposal to have the zone surrounding Dome A – 19,764 total square kilometres – designated as an Antarctic Special Managed Area (ASMA).<sup>42</sup> ASMAs are meant to be for the purpose of environmental protection, but China’s view is that ASMAs and other environmental management efforts are a form of “soft presence” (ruan cunzai) for states that want to seize control over territory in Antarctica and the Southern Ocean.<sup>43</sup> This is not a correct interpretation of Annex V of the Antarctic Treaty, which sets the rules for ASMAs. China’s proposed DOME A ASMA can be seen on the PANDA map. Chinese polar scientists and officials refer to this massive territory as “China’s Management District” (Zhongguo guanli qu) and “China’s Great Wall” (Zhongguo qiang).<sup>44</sup>

China’s Dome A ASMA proposal has five zones and sectors, adding up to 19,764 total square kilometres.<sup>45</sup> The Dome A ASMA would encircle Kunlun Station at a radius of 120 kilometres (for the clean air sector), 10 kilometres (for the buffer zone), and 30 kilometres (for two scientific zones). The operational zone is a rectangular area and is located between them. The Dome A ASMA area was first fully mapped out in 2009. If the “China Management District” proposal were to be accepted, it would put the territory around Dome A under Chinese management, making it difficult for other national programs to operate there, other than as a partner with China. Depending on the management plan, proposed by China, but which must be agreed to by all ATCPs, it could close off the possibility of any other state operating an airfield or a base in this strategically significant zone. China unsuccessfully proposed the Dome A ASMA at the 2015 and 2016 ATCM and it will be a top priority of the Beijing ATCM in May-June 2017.

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<sup>39</sup> “Zhengzhan Nanji Zhongguo zai hangdong.”

<sup>40</sup> Interview with team member.

<sup>41</sup> “Zhengzhan Nanji Zhongguo zai hangdong.”

<sup>42</sup> “Proposal for a New Antarctic Specially Managed Area at Chinese Antarctic Kunlun Station, Dome A,” Working Paper 8, CEP 9a, XXVI Antarctic Treaty Consultative Meeting, Brussels, April 2013, [http://www.ats.aq/documents/ATCM36/wp/ATCM36\\_wp008\\_e.doc](http://www.ats.aq/documents/ATCM36/wp/ATCM36_wp008_e.doc).

<sup>43</sup> Wu Yilin, “Huanjing baohu yu Nanji de ‘ruan cunzai’” [Environmental protection and ‘soft presence’ in Antarctica], *Haiyang kaifa yu guanli* 26, no. 4 (2009): 43–45. Wu is China’s Antarctic consul to Australia.

<sup>44</sup> Bao Yinghua, “Nanji cehui,” [Antarctic surveying], <http://drcsm.sbsm.gov.cn/accessory/Sep27,201110500PM.doc>; and “Nanji nei lu kunlun zhan ke kao dui 18 ri chufa” [Antarctic hinterland expedition to Kunlun starts on 18th], Heilongjiang Provincial Bureau of Surveying and Mapping, December 9, 2009, [www.hljbsm.gov.cn/index.asp?id=1043](http://www.hljbsm.gov.cn/index.asp?id=1043); “17 yongshi chengong deng ding nanji bing qiong A” [17 warriors successfully ascend Antarctica’s Dome A], SOA, January 8, 2008, [http://www.soa.gov.cn/xw/dfdwdt/jsdw\\_157/201211/t20121108\\_16625.html](http://www.soa.gov.cn/xw/dfdwdt/jsdw_157/201211/t20121108_16625.html).

<sup>45</sup> “Proposal for a new Antarctic Specially Managed Area at Chinese Antarctic Kunlun Station, Dome A,” Working Paper 8, CEP 9a, ATCM XXXVI, CEP XVI (Brussels, May 22–29, 2013), Secretariat of the Antarctic Treaty, 2015, [http://www.ats.aq/documents/ATCM36/wp/ATCM36\\_wp008\\_e.doc](http://www.ats.aq/documents/ATCM36/wp/ATCM36_wp008_e.doc).



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## China's strategic interests in Antarctica

China's strategic interests in the polar regions can be divided into three core categories, ranked as follows:

- Security (Traditional and Non-traditional): China has economic, political, and military interests in the polar regions.
- Resources: China wants access to Arctic and Antarctic minerals and hydrocarbons, fishing, tourism, transport routes, water, and bioprospecting.
- Science and Technology: Access to the polar regions is essential for the rollout of the BeiDou navigational system, China's space science program, and accurate weather forecasting in China.

China's strategic interests in Antarctica are intertwined and complex. This special report will focus solely on those aspects relevant to New Zealand's Antarctic interests and policies and to potential breaches of the Antarctic Treaty.

### *China's military activities in Antarctica*

Ensuring Antarctica remains free from military competition is essential to New Zealand's national security. The New Zealand Department of Defence's 2014 Defence Assessment notes: "The Antarctic Treaty System has been in force over Antarctica since 1961 and limits the use of Antarctica to peaceful, primarily scientific purposes. It prohibits military activities, although military forces are able to conduct non-military tasks such as resupply of bases."<sup>46</sup> Article I(2) of the Antarctic Treaty states that "military personnel and equipment may be used for scientific research or any other peaceful purpose," and Article VII(5) (c) requires countries to report details of any military personnel or equipment to be introduced into Antarctica. However, over a number of years China has frequently failed to accurately report the extent of its military's activities in Antarctica and the military use of some of its scientific projects there. Chinese polar analysts have highlighted the military-strategic importance of Antarctica for China: (1) due to its key strategic transport routes, (2) as a strategically vital territory with unresolved sovereignty and rich resources, and (3) as an ideal site for military-related research and strategic satellite installations.<sup>47</sup> China's military activities in Antarctica—along with those of the other major nuclear powers who use their Antarctic bases to control offensive weapons systems<sup>48</sup>--has the potential to shift the strategic balance which has maintained peace in the Asia-Pacific, as well as in Antarctica, for nearly seventy years.

The Antarctic Treaty is a Cold War instrument originally aimed at managing rivalry between the United States and the Soviet Union and tensions over territorial claims among the seven Antarctic claimant nations. From the point of view of regional security architecture, the Treaty completes the Southern-most reach of the USPACOM, the USA's largest area of unified combat command. Since the early 1950s, a series of "hub and spokes" security pacts and one international agreement (namely the Antarctic Treaty) has enabled US armed forces in the Asia-Pacific to dominate key chokepoints leading to the Arctic Ocean, the Indian Ocean, and the Southern Ocean. US naval

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<sup>46</sup> NZ Department of Defence, "Defence Assessment 2014," p. 31,

<http://www.defence.govt.nz/assets/Uploads/defence-assessment-2014-public.pdf>

<sup>47</sup> Ding Huang, ed., *Jidi guojia zhengce yanjiu baogao 2013–2014*, p. 64.

<sup>48</sup> Sam Bateman, in Anthony Bergin, ed., *Cold Calculations: Australia's Antarctic Calculations*, ASPI Strategic Insight 66, p. 10.



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dominance in the Asia-Pacific was set up in the 1950s to defend a series of island chains against the spread of communism.

The island chain concept links the North Pole to the South Pole, extending US strategic control over the gateways to the seas and skies of the Asia-Pacific region from the entrance to the Arctic at the Bering Sea chokepoint, all the way down to Antarctica and as far as the South Pole where the United States' Scott-Amundsen Base is located. Breaking the US military's strategic dominance in the Asia-Pacific would greatly enhance China's security and enable it to gain the upper hand in multiple maritime territorial disputes. International attention has focused on China's military interests in the South China and East China Sea and Indian Ocean, but the People's Liberation Army (PLA) has longstanding involvement and interests in the Southern Ocean and Antarctica.

The PLA's first-ever international expedition was to the furthest end of the third island chain, Antarctica. In 1984, during China's first Antarctic expedition, armed PLA naval personnel helped set up China's first Antarctic station, a fact that was not properly acknowledged in China's report to SCAR at the time.<sup>49</sup> In recent years, PLA personnel have repeatedly participated in China's Antarctic program without their presence being noted in China's annual report to the Antarctic Treaty. I highlight here two examples. In the 2013–14 season, China's Antarctic expedition included a PLA logistics expert who was there to set up the BeiDou-2 global positioning system.<sup>50</sup> Yet in China's 2013–14 annual Antarctic Treaty report, the section of the report where a nation active in Antarctica should report any military activity on the continent was removed altogether from the form.<sup>51</sup> In the 2007–8 season, six PLA experts were sent to work on China's Zhongshan Station to help to build a new pier and a high-frequency radar station. Chinese and international reports commented that the new radar station would be capable of blocking the United States' polar satellites – an important military consideration.<sup>52</sup> The PLA's involvement in this activity was widely – and proudly – reported in the Chinese media. However, China also failed to report the presence of these military personnel in its 2007–8 annual Antarctic Treaty report, leaving that section of the form blank.<sup>53</sup>

The People's Liberation Army-Navy (PLAN) works in close partnership with the State Oceanic Administration (SOA) to coordinate China's evolving polar strategy. PLAN is represented on China's Polar Advisory Committee, which coordinates inter-agency polar activities, by the General Staff Operations Office (GSOO). GSOO is PLAN's most senior office, responsible for all naval military orders. PLA personnel took part in the Chinese government's multi-agency 2012–16 project to assess polar

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<sup>49</sup> Interview with first expedition member, 2012; First Chinese National Antarctic Research Expedition, 1984/1985, Report to SCAR.

<sup>50</sup> "Di 30 ci Nanji kaocha dui cong Aodaliya deng chuan duiyuan mingdan" [30th Antarctic expedition team Australia boarding group list], PRIC, 2013. Wang Guangdong works at the PLA Logistics Department in the Institute of Military Transport, and boarded the Xue Long at Fremantle in Australia.

<sup>51</sup> "Antarctic Treaty Electronic Exchange Information: China 2013–2014," Secretariat of the Antarctic Treaty, 2014, <http://eies.ats.aq/Ats.IE/ieGenRpt.aspx?idParty=9&period=2&idYear=2014>.

<sup>52</sup> "Zhongguo jun fang zai Nanji juemi wuqi chujie, rang huashengdun kongqian chuchou" [China's secret Antarctic weapon attacked, Washington looks foolish], April 7, 2011, accessed May 2, 2015, <http://www.fxingw.com/zgjq/2011-04-07/5689.html> (link discontinued).

<sup>53</sup> "Jiefangjun baopo zhuanjia zai Nanji xiujian gao pin leida zhan" [People's Liberation Army explosives expert built high-frequency radar station in Antarctica], Xinhua, April 18, 2008, [http://news.qq.com/a/20080418/000875\\_1.htm](http://news.qq.com/a/20080418/000875_1.htm); and "Antarctic Treaty Electronic Exchange Information: China 2008," Secretariat of the Antarctic Treaty, 2008, <http://eies.ats.aq/Ats.IE/ieGenRpt.aspx?idParty=&period=1&idYear=2008>.



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governance and resources.<sup>54</sup> PLA analysts of all forces frequently publish on polar strategic issues in military open-source journals. A search of Chinese-language, open-source military-related journals published between 2000 and 2013 identified close to sixty articles discussing various aspects of the Arctic and Antarctic from a military perspective.

The SOA and the PLAN rotate some of their leading personnel, so polar expertise will overlap between the two agencies.<sup>55</sup> SOA vessels can serve PLAN military-strategic interests while attracting less political controversy than a PLAN vessel operating in the same waters might. In a time of war, China's polar scientific vessels and bases would fall under PLAN command. In the next five years we can expect to see an ever-increasing level of involvement of the Chinese military in the Antarctic program.<sup>56</sup> This will greatly enhance China's Antarctic operating capacity and enable PLA personnel to gain experience operating in polar conditions, both of which will be useful for China's long-term strategic interests.

PLAN is rapidly expanding its capabilities and reach and China's significant global shipping interests are the official justification for this.<sup>57</sup> As the world's largest shipping nation with the world's largest economy, China is looking for ways to reduce its dependence on maritime chokepoints such as the Malacca Strait. The Southern Ocean offers three potential alternative shipping routes linking China with the Indian and Atlantic Ocean: (1) via South Africa's Cape of Good Hope, (2) via Chile's Cape Horn, and (3) via Australia's Southeast Cape in Tasmania. As Chinese naval analysts note, in a time of military conflict in the vicinity of China's main SLOCs, these three capes would provide useful alternative routes for Chinese shipping.<sup>58</sup> Although the areas suffer from extreme weather conditions, all three are free of conflict. Chinese analysis describes the transit via Tasmania's South East Cape as a "golden route," because it is completely under the control of the Royal Australian Navy.<sup>59</sup>

The Antarctic transpolar air route is less commercially significant than the Arctic transpolar route, but Chinese military analysts noted its strategic significance as early as the 1960s.<sup>60</sup> As an internal report noted way back in 1977, any state that dominates the air space of Antarctica – currently, only the United States is in this situation – potentially could control air access to all Oceania, South America,

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<sup>54</sup> Cheng Baozhi, "Zhili yu hezuo: 2011 Zhongguo jidi zhanlue yu quanyi yantao hui' huiyi zongshu" ["Governance and Cooperation: 2011 Symposium on China Polar Strategy and Rights" Conference], January 29, 2012, <http://www.17net.net/Article/Class7/705/17074026900.html>.

<sup>55</sup> For example, Luo Yuru was both director of the SOA and deputy director in the PLAN Training Department.

<sup>56</sup> Interview with Chinese polar official.

<sup>57</sup> Liu Yijian, *Zhi haiquan yu haijun zhanlue* [The command of the sea and the strategic employment of naval forces] (Beijing: Jiefangjun guofang daxue chubanshe, 2004), 233.

<sup>58</sup> Shen Kong, Sha Weiliang, and Yuan Xiansheng, "Nan Dayang zhanlue diwei tuxian" [Highlighting the strategic position of the Southern Ocean], *Dangdai haijun*, no. 9, (2007); and Liu Jiangping and Yan Min, "Rijian tuxian de Nan Dayang zhanlue diwei ji quyue haijun qiangguo" [The increasing strategic significance of the Southern Ocean and regional naval power], *Xiandai junshi*, no. 1, (2003). Similar points about the strategic significance of the polar air and sea routes can be seen in Ding, *Jidi guojia zhengce yanjiu baogao 2012–2013*, 64.

<sup>59</sup> Liu and Yan, "Rijian tuxian de nan dayang zhanlue diwei ji quyue haijun qiangguo," 48.

<sup>60</sup> John Wilson Lewis and Hua Di, "China's Ballistic Missile Programme: Technologies, Strategies, Goals," *International Security* 17, no. 2 (1992), p. 19.



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and Africa.<sup>61</sup> China is setting up an intercontinental Antarctic air route and can be expected to utilise PLA-Air Force planes in due course to expand capacity and build polar experience.

Polar equipment and support is another venue for Chinese military involvement. China's Antarctic expeditions' helicopter support is contracted to Ha Air, a subsidiary of one of China's top ten military companies.<sup>62</sup> China's small fleet of polar amphibian and all-terrain vehicles used in Antarctica were specially designed by PLA engineers. The manufacturers boast that the vehicles are also useful for "airdrop operations, border patrol, forest protection, antiriot security, disaster relief, maritime rescue, and other special operations" – which makes them useful for both peaceful and military applications.<sup>63</sup>

China, like a number of other polar states, is able to make use of the unresolved sovereignty of Antarctica to establish space tracking and ground receiving stations for polar satellites, with global coverage, that would be unwelcome on the sovereign territory of other states. China's first polar ground receiving station was established at its Antarctic Great Wall Station in 1993. The data collected there also had dual civil-military use for improving weather predictions and enhancing China's coastal defence.<sup>64</sup>

China's polar research stations play a core role in helping the PLA enhance its Command, Control, Communications, Computers Intelligence Surveillance Reconnaissance (C<sup>4</sup>ISR) systems capabilities, missile timing and missile positioning, via the BeiDou satellite system. C<sup>4</sup>ISR is a crucial capacity of the modern military: it enhances situational awareness in a tactical environment, improves interoperability, and provides surveillance and intelligence capacity. BeiDou is a dual civil military technology, China's equivalent of GPS. The polar regions are crucial for China to expand BeiDou's reach to global coverage.

A BeiDou satellite capable of being received in the polar regions was launched in 2007. In January 2014, the BeiDou system was put to the test when China's ice vessel Xue Long was itself trapped while attempting to rescue the Russian research vessel Akademik Shokalskiy. A polar-orbiting Chinese military satellite, part of the BeiDou system, was used to identify ice conditions to guide Xue Long's passage through the ice floes. The SOA and PLA jointly coordinated Xue Long's successful exit from its ice trap. The same military polar satellite has been used to help look for the missing Malaysia Airlines Flight 370, which vanished in March 2014.<sup>65</sup>

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<sup>61</sup> Renmin ribao guojibu ziliao, "Shijie 'zuihou de bianjiang': Nanjizhou de ziyuan zhengzhuo zhan" [The world's 'final frontier': The struggle for Antarctica's strategic resources], Neibu ziliao (Renmin ribao) (May 1977), p. 1.

<sup>62</sup> "Ha hang liang jia zhi jiusi fu Nanji" [Ha Air complete four missions in Antarctica], Sina.com, November 24, 2005, <http://mil.news.sina.com.cn/2005-11-14/1502330881.html>; and "Ha hang yu changhe chongzu jincheng yinmi" [Secret restructuring process of Ha Air and Changhe], Sina.com, December 31, 2004, <http://news.sina.com.cn/c/2004-12-31/07074678410s.shtml>.

<sup>63</sup> "Jiefangjun Q ban shuilu liangqi quan dixing che jiang zhengzhan Nanji" [The PLA's Amphibian, all-terrain Q-class vehicle will go to Antarctica], China.com, October 12, 2007, [http://military.china.com/zh\\_cn/news/568/20071012/14389013.html](http://military.china.com/zh_cn/news/568/20071012/14389013.html).

<sup>64</sup> James C. Bussert, "China Taps Many Resources for Coastal Defence," Signal, November 2002, <http://www.afcea.org/content/?q=china-taps-many-resources-coastal-defense>.

<sup>65</sup> Interview with Chinese polar scientist, 2014.



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China installed ground satellite receiving and processing stations at both Changcheng and Zhongshan Stations in 2010<sup>66</sup> and at Kunlun Station in early 2013,<sup>67</sup> and completed further upgrades to the Zhongshan Station facilities in early 2015. Installing ground receiving stations at these locations greatly increases the positioning accuracy of Chinese satellites as well as China's Antarctic mapping capacity, useful for engaging in mineral exploration there. In 2020, BeiDou will achieve full global coverage by utilizing over thirty spacecraft in orbit.<sup>68</sup> BeiDou-1 had full Asia-Pacific coverage in 2003, while BeiDou-2 rolled out in 2012 with improved capabilities. BeiDou-2 has five open channels and five closed military channels, which makes jamming impossible.<sup>69</sup> Chinese commentators say the dual-use capacity of the BeiDou satellite receiving station in Antarctica means that in a future US-China conflict, China's Antarctic bases could be targeted in order to disrupt the BeiDou system.<sup>70</sup>

A further aspect of China's military-related Antarctic scientific interests is upper atmosphere physics and satellite remote sensing. Remote sensing is used for mineral and oil exploration, marine surveys, military reconnaissance, and mapping. China's Antarctic upper atmosphere physics is also useful for the PLAN's submarine-related research on sea ice noise.<sup>71</sup>

China regards Antarctica as a useful laboratory for preparing for an advanced space program. The engineering required to build a modern research station in Antarctica can be applied in many other extreme environments, including space. During the 12th Five-Year Plan (2011–2015), China set up a polar engineering research network to strengthen and develop the research links between polar and space engineering.<sup>72</sup> China's Lunar Expedition Program has already sent several robotic missions to the moon and plans a manned mission between the years 2025 to 2030. Meteorite research is also useful for comparative planetology and geochemistry, that is, comparing the geology of the earth, the moon, and Mars, and assessing what mineral resources lie there.<sup>73</sup> China has not yet signed the Lunar Treaty, which treats mineral resources on the moon and other planets as part of the common heritage of humankind and therefore unable to be colonized.<sup>74</sup>

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<sup>66</sup> "Guojia Nanji 'shiwu' nengli jianshe zhongdian xiangmu Nanji Changcheng zhan, Zhongshan zhan, dimian weixing jieshou chuli xitong" [National 15th five year plan capacity key building project to install satellite ground receiving and processing stations successfully completed], National Marine Environmental Forecasting Center, March 18, 2010, <http://www.nmefc.gov.cn/nr/cont.aspx?itemid=2&id=1757>.

<sup>67</sup> "Sinan Beidou daohang jieshouji biao xian youyi" [Sinan Beidou navigation receiver's outstanding performance], Xi'an Beidou xun, May 17, 2013, accessed November 19, 2013, <http://www.xabd.com/xwdt/yjxw/2820.html> (link discontinued).

<sup>68</sup> Stephen Clark, "China Sends Beidou Navigation Satellite to Space," *Spaceflight Now*, April 14, 2011, <http://www.amerisurv.com/content/view/8568/>.

<sup>69</sup> James C. Bussert and Bruce A. Elleman, *People's Liberation Army Navy Combat Systems Technology, 1949–2010* (Annapolis, MD: Naval Institute Press, 2011), 161.

<sup>70</sup> "Zhongguo xinjian Nanji Kunlun shan zhan, Ao zhiku cheng jiang yinfa junshi chongtu [China's new Antarctic base Kunlun, Australian think tank implies it could have a role in a military conflict], 114junshiwang, accessed November 1, 2013, <http://lunti.114junshi.com/fangwupinglun/js44045.html> (link discontinued); Chen and Wang, "Shi xi Zhongguo de Nanji liyi yu quanyi," 7.

<sup>71</sup> Chen and Wang, "Shi xi Zhongguo de Nanji liyi yu quanyi," 7.

<sup>72</sup> "Zhengzhan Nanji, Zhongguo zai xingdong" [China is on the move in Antarctica], *Zhongguo kexue bao*, January 17, 2014, accessed August 6, 2014, <http://www.shkpx.com/8227/9063/21252.html> (link discontinued).

<sup>73</sup> William Cassidy, *Meteorites, Ice, and Antarctica: A Personal Account* (Cambridge, UK: Cambridge University Press, 2007), 126–32.

<sup>74</sup> "Agreement Covering the Activities of States on the Moon and Other Celestial Bodies," United Nations Office for Outer Space Affairs, A/RES/34/68, December 5, 1979, <http://www.unoosa.org/oosa/SpaceLaw/moon.html>.



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China has a strong polar geomagnetics, ionosphere, and auroras research program that benefits from Arctic and Antarctic research. Geomagnetics research is used by militaries to help determine local geomagnetic field characteristics, in order to detect anomalies in the natural background that might be caused by a significant metallic object such as a submerged submarine. China (along with Russia and the USA) is researching high-frequency active auroras in Antarctica, investigating the defence-related potential uses of the ionosphere. Electromagnetic pulses can be used to upset, jam, or even destroy, enemy electronics. Polar auroras often interfere with radio and radar signals, and solar flares can interfere with military and civilian communication. China's ability to develop an independent satellite communications system, improve the safety of its polar navigation in difficult areas such as the Arctic seas, and expand its cross-Arctic air routes all depend on whether it can manage this strategically important concern. Chinese polar scientists are also researching how to harvest aurora-generated energy. Zhongshan Station, Kunlun Station, plus China's Arctic stations are China's key research sites for these programs. China's Antarctic Zhongshan Station and Arctic Huang He Station are perfectly paired sites for atmospheric physics and space-related research, as they are geographical cognates.<sup>75</sup>

China's astronomical program at Dome A has direct military applications. Infrared telescopes can be used to search for enemy satellites, drones, and missile launches, and identify if they have been shot when targeted. China's use of this technology during a conflict would greatly enhance its defensive capabilities in an air-sea battle in their near seas. This capacity is not unique to Chinese telescopes in Antarctica: all the Antarctic states with advanced telescopes and satellite receiving stations there have similar dual-use capabilities.

#### *China's interest in exploiting Antarctic resources*

The Antarctic Treaty permits the orderly exploitation of certain Antarctic resources: free access to the continent for scientific research, free access to the continent for individual exploration and adventure, managed fishing, and unlimited tourism and bioprospecting. However, since the 1991 Protocol on Environmental Protection entered into force in 1998, mineral exploitation and exploration have been banned, although scientific research into Antarctic minerals has not. From the Chinese government's point of view, the Protocol simply postponed what Chinese polar policymakers believe is the inevitable opening up of Antarctic resources. In 2000, a Ministry of Land and Resources report assessing Antarctic mineral resources concluded that the Antarctic Treaty and its various instruments establish the political prerequisites for both "protecting the Antarctic environment and the future utilisation of Antarctic resources."<sup>76</sup> Any of the original thirty-three signatories of the protocol can request a review at any time, but consensus is required to make any change. However after 2048, any modification to the terms of the protocol can be passed by a three-quarter majority of the parties. Since the same thirty-three signatories signed an earlier agreement, the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA), which would have permitted mineral exploitation in Antarctica, it does not seem impossible that by mid-century the same states will be ready to sign a similar agreement. Eight states have already publically stated their interest in exploiting Antarctic minerals.

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<sup>75</sup> "Jiemi Zhongguo shouzuozuo Beiji ke kao zhan: Tan Beiji bi Nanji 'shengshi'" [China's first Arctic Station: Exploring the Arctic is 'easier' than Antarctica], Beijing ribao, July 21, 2004, <http://www.china.com.cn/chinese/TR-c/616173.htm>.

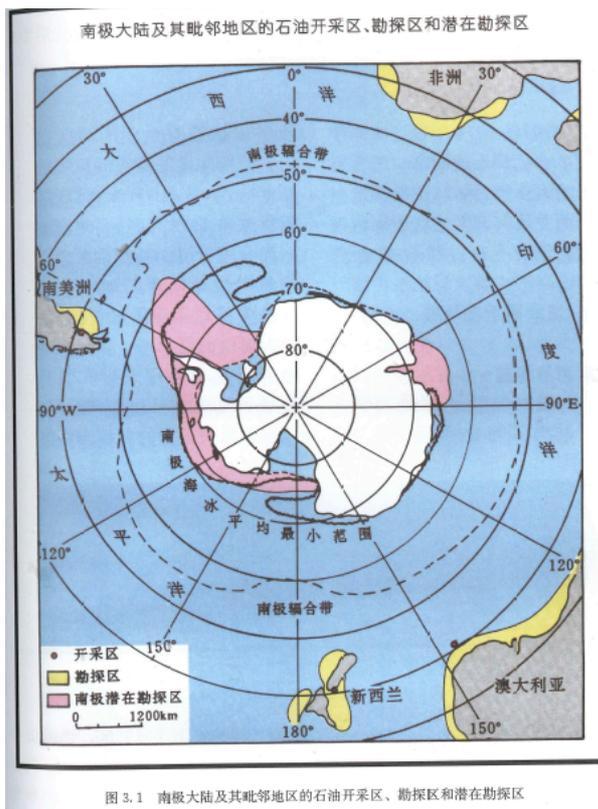
<sup>76</sup> Guojia ziyuan xinxi zhongxin, Quanchuan ziyuan yu guojia anquan [Mineral resources and national security] (Beijing: Dizhi chubanshe, 2000), 149.



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Polar Research Institute of China (PRIC) researchers estimate that there are 500 billion tons of oil on the Antarctic continent and 300 to 500 billion tons of natural gas on the Antarctic continent, plus a potential 135 billion tons of oil in the Southern Ocean.<sup>77</sup> In 2009, PRIC staff produced a book-length study investigating the full range of Antarctic mineral resources and their legal status, stating that “when all the world’s resources have been depleted, Antarctica will be a global treasure house of resources.”<sup>78</sup> China’s annual polar report notes that access to the considerable natural resources in Antarctica (and the Arctic) is essential for the continued growth of the Chinese economy.<sup>79</sup> A 2013 report in the CAA’s Polar Strategy Research Trends comments that “regardless of how the spoils are divided up, China must have a share of Antarctic mineral resources to ensure the survival and development of its one billion population.”<sup>80</sup>



Chinese government map of Southern Ocean mineral exploration zones<sup>81</sup>

China has never stopped exploring Antarctic mineral resources, despite the requirements of the Protocol on Environmental Protection. China is focusing on a few key areas known to hold

<sup>77</sup> Zhu, Yan, and Ling, “Nanji ziyuan ji qi kaifa liyong qianjing fenxi,” 18 and 20.

<sup>78</sup> Yan Qide and Zhu Jiangang, ed., *Nanjizhou ziyuan lingtu zhuquan yu ziyuan quan shu wenti yanjiu* [Research on Antarctic sovereignty and resources rights] (Shanghai: Kexue jishu xhubanshe, 2009), 183.

<sup>79</sup> Ding, Jidi guojia zhengce yanjiu baogao 2012–2013, 79; and Ding Huang, ed., *Jidi guojia zhengce yanjiu baogao 2013–2014* [Annual report on national polar policy research, 2013–14] (Beijing: Kexue chubanshe, 2014), 138.

<sup>80</sup> Jidi zhanlue yanjiu dongtai, no. 3 (2013): 16.

<sup>81</sup> Ding, Jidi guojia zhengce yanjiu baogao 2012–2013, 57.



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significant reserves in order to help China in its bid to gain rights to these resources.<sup>82</sup> The most recent large study included a “preliminary exploration of mineral resources in Antarctic waters” and “surveyed coal reserves.”<sup>83</sup>

A further important Antarctic resource of interest to China is fishing. Southern Ocean fishing is managed by an Antarctic Treaty organisation, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), based in Hobart. China has the third-largest catch of Antarctic krill after Norway and South Korea, and it sends five boats, more than any other state, to the Southern Ocean to fish for krill.<sup>84</sup> China’s 2014 catch in the Southern Ocean was 55,000 tons of krill, worth around US\$10 million. In 2015, China announced that it planned to double or even quadruple its existing krill catch, to between one to two million tons per year.<sup>85</sup> Currently, CCAMLR limits the overall annual take of krill to 680,000 tons. This amount could be expanded only if scientific data can prove that more krill can be taken in a sustainable manner and must be approved by the other signatories to CCAMLR.

Chinese tourism into Antarctica has grown exponentially in the last five years. In 2010, Chinese Antarctic diplomat Wu Yilin recommended that China encourage Chinese tourism operators to become active in Antarctica in order to take advantage of a legitimate Antarctic “resource”—the pristine environment—and gain market share before restrictions on tourism numbers are introduced.<sup>86</sup> China is now the second largest source of Antarctic tourists after the United States. The Chinese government wants to have China-based travel agents and operators working in Antarctica (and the Arctic) in order to make a China “a major tourism nation in Antarctica.”<sup>87</sup> Becoming a significant market for Antarctic tourists adds weight to China’s Antarctic authority, influence, and presence.

On Antarctic affairs China ranks as follows:

- Polar-related Military Capabilities: Polar-capable submarines and surface vessels: 1. United States, 2. Russia, 3. China; satellites: 1. United States (549), 2. China (142), 3. Russia (131),<sup>88</sup> nuclear missiles: 1. Russia (1648), 2. United States (1538), 3. China (250).<sup>89</sup>

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<sup>82</sup> Zhu, Yan, and Ling, “Nanji ziyuan ji qi kaifa liyong qianjing fenxi,” 22.

<sup>83</sup> “Nanji zhoubian haiyu yu dalu zonghe pinggu” [A comprehensive evaluation of Antarctic waters], *Jidi zhuanying jianbao* 10 (January 2016): 3.

<sup>84</sup> Ding, *Jidi guojia zhengce yanjiu baogao 2013–2014*, 172.

<sup>85</sup> Xie Yu, “China Steps Up Efforts in Antarctica to Benefit from Krill Bonanza,” *China Daily*, March 5, 2015, [http://usa.chinadaily.com.cn/epaper/2015-03/04/content\\_19716649.htm](http://usa.chinadaily.com.cn/epaper/2015-03/04/content_19716649.htm).

<sup>86</sup> Wu Yilin, “Guanyu fazhan Nanji luyouye de sikao [Thoughts on expanding Antarctic tourism],” *Zhongguo haiyang daxue xuebao, shehuixueban* (2010): 5–8.

<sup>87</sup> “Yinggai peizhi zhenzheng de Zhongguo Nanji luyou shichang” [We should foster the development of a truly Chinese Antarctic tourism market], *Zhongguo luyou bao*, July 3, 2014, <http://www.henanci.com/Pages/2014/07/03/20140703023333.shtml>.

<sup>88</sup> “UCS Satellite Database,” Union of Concerned Scientists, accessed September 1, 2015, <http://www.ucsusa.org/nuclear-weapons/space-weapons/satellite-database#.VqapSvI97cs>. Given here are the total number of satellites for these three states, both officially commercial as well as those designated as “military,” because all satellites have dual-use capacities. One example of this dual-use capacity occurred when a Chinese military satellite was used for search-and-rescue duties in the Southern Ocean in 2014 when the *Xue Long* was trapped in sea ice.

<sup>89</sup> “World Nuclear Weapon Stockpile: 2015,” Ploughshares Fund, accessed March 2, 2016, <http://www.ploughshares.org/world-nuclear-stockpile-report>; and “New START Treaty Aggregate Numbers of



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- Number of Antarctic Research Stations: 1. Argentina, 2. Chile, 3. Russia, 4. China–South Korea (per their joint-operations agreement).<sup>90</sup> Measured by China-controlled bases only, China ranks fifth, equal with Germany.
- Quality of Polar Science (Based on Citation Rates, Ranking of Journal): US polar science is preeminent in Arctic and Antarctic studies; China still ranks relatively low on overall quality.
- Quantity of Antarctic Science Projects: 1. Australia, 2. United States, . . . 11. China.
- Antarctic Science Budget (Operation Costs/Research Funds/Capital Investment): 1. China, 2. United States, 3. Russia.
- Citizens in Antarctica (Scientists, Tourists, Fishers, Workers): 1. United States, 2. China, 3. Australia.
- Level and Spread of Engagement in Antarctic Affairs: 1. United States, 2. Russia, 3. China.
- Antarctic Working Papers: 1. United Kingdom, 2. New Zealand, . . . 20. China.

## Conclusion

China has undeclared military activities in Antarctica, is building up a case for a territorial claim, and is engaging in minerals exploration. Previous calculations by the New Zealand government on strategic risk in Antarctica have not had access to detailed evidence of these activities.

New Zealand needs to take stock of its existing strategy of dealing with a rising China and New Zealand's Antarctic strategy and interests, and find the means to balance the two. As a result of the conclusions of the 2014 Defence risk assessment, New Zealand is already taking steps to expand and deepen its Antarctic capacity and institutional expertise in a whole-of-government response. But much more can be done. New Zealand needs to devote more diplomatic resources to Antarctic affairs and could concentrate coordination of New Zealand's Antarctic policy in an Antarctic ambassador, it should increase the brief of government agencies with existing Antarctic capacity, and support contestable deep policy research on the changing Antarctic political environment. New Zealand should also do more to partner with other like-minded states in the Indo-Asia-Pacific, to protect its interests both in Antarctica and globally, and in so doing, re-balancing our international relations to focus on our area of the world, which stretches from the South Pole and almost to the Equator.

China should be encouraged to issue an official Antarctic strategy to formally state its Antarctic interests and policies. Antarctic states with an interest in environmental protection in Antarctica such as New Zealand can do more to partner with China on projects which will strengthen China's ability to preserve the unique Antarctic environment. China does not have a lot of depth in the strategic advice it is receiving on Antarctica. Chinese Antarctic policymakers and academics frequently state in their analysis myths about Antarctic governance, such as that the Antarctic Treaty will end in either 2041 or 2048. New Zealand can help China develop a more thorough understanding of Antarctic law by offering training and exchanges for Chinese polar personnel. Joining with other interested states to speak out on the military-use capabilities of states such as China in Antarctica will help ensure Antarctica remains peaceful.

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Offensive Weapons," Bureau of Arms Control, Verification, and Compliance, US State Department, October 1, 2015, <http://www.state.gov/t/avc/rls/247674.htm>.

<sup>90</sup> "Hamjung namgeugseo sonjab-assda, giji gongdonghwal-yong" [China and Korea join hands, joint use of Antarctic bases], Chosun Ilbo, November 29, 2013, <https://www.kookje.co.kr/news2011/asp/newsbody.asp?code=0200&key=20131130.22010205349>.



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New Zealand must face up to the new challenges of the emerging global order. With careful diplomacy, a clear-headed strategy and leadership, and strategic investments in capacity, New Zealand can better manage its economic and political relationship with China, while protecting peace and security in Antarctica.

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