

## The Ethical Dilemma of Antarctic Exploitation: Balancing Present and Future

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### Introduction

The Antarctic, untouched by human civilization for millennia, stands as a pristine laboratory for scientific research and a critical element of our planet's climate system. As a significant part of Earth's heat balance, the unique Antarctic ecosystem, abundant with diverse flora and fauna, plays a crucial role in regulating global temperatures and ocean currents. Nevertheless, the allure of its natural resources, along with technological advancements, has ignited a growing interest in exploiting the Antarctic for economic gain.<sup>2</sup> This raises a profound ethical dilemma: how can we balance the desire for present-day benefits with the imperative to protect this environment and ensure its long-term sustainability for future generations?



Source: Quark Expeditions

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<sup>2</sup> Pallone, Frank. "Resource Exploitation: The Threat to the Legal Regime of Antarctica." 1978, <https://scholar.smu.edu/cgi/viewcontent.cgi?article=3339&context=tij>

Historically, human activity in the Antarctic has been primarily focused on scientific research and exploration. However, as technology has evolved, so have the ambitions of nations and corporations.<sup>3</sup> The potential for extracting valuable resources, such as minerals, fisheries, and even freshwater, has become increasingly attractive. While these activities may offer transient economic advantages, they also pose significant risks to the region's delicate ecosystem. Overfishing, tourism, pollution, and climate change are just a few of the threats that could result in devastating consequences for this unique region.

## Historical Background

The exploitation of Antarctica began in the nineteenth century, with the exploration dating back to the late eighteenth or early nineteenth century. Initial efforts on exploitation centered upon sealing, particularly fur seals and elephant seals. Afterwards, efforts shifted towards whaling in the beginning of the twentieth century, with the intensity becoming so high that by 1916 Humpback whaling was no longer commercially profitable. With the continuation of whaling until 1960s, attention diverted to fin-fishing. The Soviets began long-line Patagonian Toothfish fishing in the late 1980s, followed by other commercially important species. Krill exploitation began in 1970s, led by Soviets, with Japan being prominent in 1990s. In 1908, the British government advanced the first claim to Antarctic territory.<sup>4</sup>

The subsequent advancement of territorial claims by other states, such as Argentina and Chile, further exacerbated the situation. Following the Argentinean and Chilean territorial proclamations, no formal claims were made to Antarctic territory. The USA and the former USSR have never recognized claims, but they have the 'right' to advance their own claims if they intend to do so, based on historical precedent.<sup>5</sup> The soaring interest over the region brought up disputes among several states over its claim. This resulted in the proposal of International Geophysical Year (IGY),

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<sup>3</sup> Curtin, Rob, Martin Hayes, Astrid Jakob, Hamish McClatchy, and Nanette Schleich. "Resources in Antarctica: With the World's Dwindling Natural Resources, Is There a Chance for Exploitation in Antarctica?" January 23, 2004, <https://ir.canterbury.ac.nz/server/api/core/bitstreams/9f684387-1a2b-4ea7-83d4-c8ea8af9ed8b/content>

<sup>4</sup> Rack, Ursula. "Exploring and Mapping the Antarctic." In *Routledge eBooks*, 34–44, 2018. <https://doi.org/10.4324/9781315730639-3>.

<sup>5</sup> Cioppa, Tom. "The Exploitation of Antarctica's Natural Resources and the Evolution of the Antarctic Treaty System: An Overview." 1995, [https://www.durham.ac.uk/media/durham-university/research-/research-centres/ibru-centre-for-borders-research/maps-and-databases/publications-database/boundary-amp-security-bulletins/bsb3-3\\_cioppa.pdf](https://www.durham.ac.uk/media/durham-university/research-/research-centres/ibru-centre-for-borders-research/maps-and-databases/publications-database/boundary-amp-security-bulletins/bsb3-3_cioppa.pdf)

focusing on scientific research. The success of this initiative paved the way for Antarctic Treaty (AT), signed in 1959 and entered into force in 1961.<sup>6</sup> As stated clearly in the agreement, the AT placed a strong emphasis on non-militarization and the idea that it should only be used for peaceful purposes. Although states have yet to exercise military in the region, the idea of using for peaceful purposes grown an area of debates.

## **Current Exploitation Activities**

After Antarctic Treaty entered into force in 1961, there were no guidelines regarding the resource exploitation due to the fear of jeopardizing the hard-edged treaty. However, as issues were raised again over the resource exploitation, Madrid Protocol was signed in 1991, which officially became law in 1998.<sup>7</sup> It lays forth guidelines for the complete protection of the continent and preservation of the natural resources of the area up to the year 2048. Although commercial mining is prohibited, several forms of exploitation are taking place such as scientific research, tourism, and small-scale fishing.



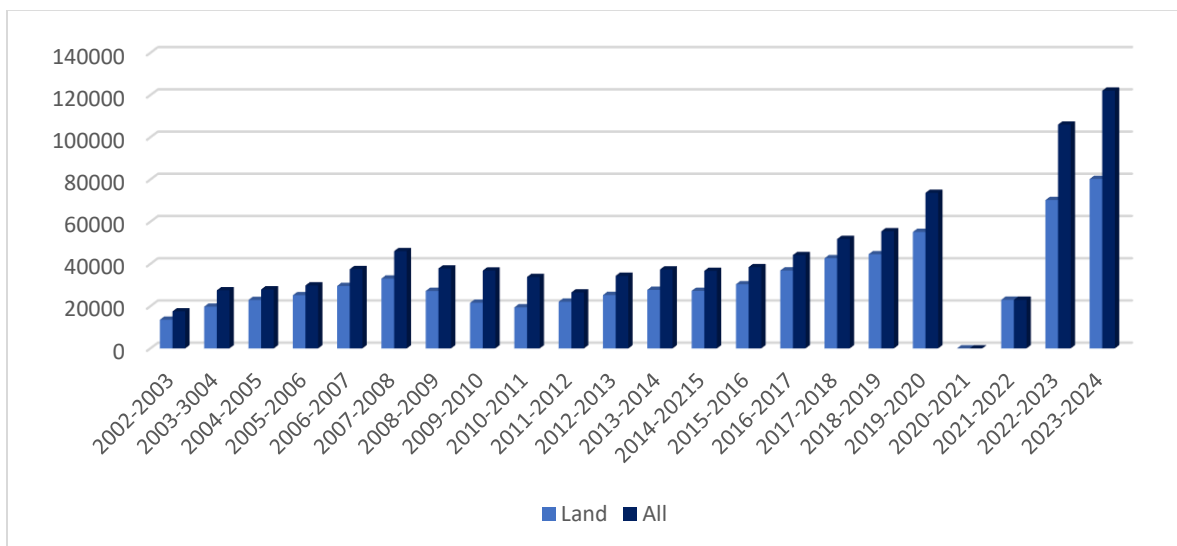
Source: CNN

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<sup>6</sup> Summerhayes, C. P. "International collaboration in Antarctica: The International Polar Years, the International Geophysical Year, and the Scientific Committee on Antarctic Research." October, 2008, [https://www.researchgate.net/publication/232004512\\_International\\_collaboration\\_in\\_Antarctica\\_The\\_International\\_Polar\\_Years\\_the\\_International\\_Geophysical\\_Year\\_and\\_the\\_Scientific\\_Committee\\_on\\_Antarctic\\_Research](https://www.researchgate.net/publication/232004512_International_collaboration_in_Antarctica_The_International_Polar_Years_the_International_Geophysical_Year_and_the_Scientific_Committee_on_Antarctic_Research)

<sup>7</sup> Jabour, Julia. "Biological Prospecting: the Ethics of Exclusive Reward from Antarctic Activity." 2010, [https://figshare.utas.edu.au/articles/journal\\_contribution/Biological\\_prospecting\\_the\\_ethics\\_of\\_exclusive\\_reward\\_from\\_Antarctic\\_activity/22880153](https://figshare.utas.edu.au/articles/journal_contribution/Biological_prospecting_the_ethics_of_exclusive_reward_from_Antarctic_activity/22880153)

Antarctic tourism has evolved significantly over the past two decades, with the most significant activity being expedition-style cruise tourism and cruise-only tourism.<sup>8</sup> The possibility of a major cruise ship accident resulting in fatalities poses a significant threat to the expansion of the tourism industry, at least for the next ten years. Any significant shift in Antarctic tourism from ships to land might increase the environmental effect on the region. Despite its promise for tourism, the inspection regime of the Madrid Protocol does not provide enough international monitoring to guarantee adherence to the requirements of the assessment or the execution of suggested mitigation actions.



Tourists in Antarctica since 2002, Source: IAATO

Antarctica is home to an estimated 70 scientific research stations, representing 29 countries that carry out investigations in a variety of disciplines, including biology, geology, and climate science. Although research is necessary to comprehend the area, it may also have negative effects on the ecosystem, such as pollution and disturbing of species. As for fishing, the continent confronts sustainability issues due to possible risks from fish and krill stock provisioning in maritime ecosystems, which might jeopardize habitat management and biodiversity regulation. Fresh water

<sup>8</sup> Snyder, John. "Tourism in the Polar Regions, The Sustainability Challenge." 2007, [https://www.oneplanetnetwork.org/sites/default/files/tourism\\_in\\_the\\_polar\\_regions\\_the\\_sustainability\\_challenge.pdf](https://www.oneplanetnetwork.org/sites/default/files/tourism_in_the_polar_regions_the_sustainability_challenge.pdf)

may be transported to drought-stricken areas by means of Antarctic icebergs; plans are underway to transfer them to Saudi Arabia, UAE, Cape Town and Southern California.<sup>9</sup>



Source: Microsoft Designer

## Ethical Considerations

The ethical implications of claiming the right or ownership of the Antarctic arise due to the fact that no single nation has the sovereign rights. Although seven states laid claims during the adoption of the Antarctic Treaty and two other states (USSR and the USA) preserved their rights, a significant portion of the Antarctic remains unclaimed which is the largest unclaimed territory on Earth till date.<sup>10</sup> These territorial claims were put on hold and no new ones may be made thanks to the 1959 Antarctic Treaty. Ethical dilemma comes to light whether the world community, which has funded scientific exploration and development in the Antarctic, is entitled to a portion of any potential rewards that may result from its resources.

Antarctica has often been described as global commons. However, many Antarctic Treaty Consultative Parties (ATCPs), particularly those developed Western countries who do not get access or benefit from sharing arrangements, do not recognize the idea of global commons. The

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<sup>9</sup> Condron, Alan. "Towing Icebergs to Arid Regions to Reduce Water Scarcity." January 7, 2023, <https://www.nature.com/articles/s41598-022-26952-y>

<sup>10</sup> Jabour, Julia. "Biological Prospecting: the Ethics of Exclusive Reward from Antarctic Activity." May 6, 2010, [https://www.researchgate.net/publication/237978327\\_Biological\\_prospecting\\_The\\_ethics\\_of\\_exclusive\\_reward\\_from\\_Antarctic\\_activity](https://www.researchgate.net/publication/237978327_Biological_prospecting_The_ethics_of_exclusive_reward_from_Antarctic_activity)

issues facing Antarctica are similar to those faced by other nations, where states reach general consensus about patent system integrity, benefit-sharing, and access, but cannot agree on how to carry out these goals. Traditional ethical principles become more complex when individuals or companies benefit from bioprospecting activities in Antarctica and are obligated to share those benefits with others who have not contributed.<sup>11</sup> This forced generosity goes beyond simple altruism and involves financial considerations. While the primary goal of bioprospecting is commercial, there are legal precedents that require sharing benefits with the international community, as seen in the case of the deep-sea bed. The Question remains whether the current approach of the ATCPs regarding exclusive rewards from commercial Antarctic activities is unethical given these precedents.



Source: In The Spread

Putting aside the right of states, overexploitation can lead to depletion, harming future generations' access to these resources. China, for example, in 2015, planned to ramp up their Krill-catch to between one to two million tons despite restrictions by the Conservation of Antarctic Marine Living Resources being the limit up to 680,000.<sup>12</sup>

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<sup>11</sup> Brundin, Xenia. "Antarctica – the Triumph of the Global Commons." 2014, <https://ir.canterbury.ac.nz/server/api/core/bitstreams/176bea5d-f930-42ac-b6a2-5b9a481a1d88/content>

<sup>12</sup> Foster, L.M and Namrata Goswami, "What China's Antarctic Behavior Tells Us About the Future of Space." *The Diplomat*, January 17, 2019, <https://thediplomat.com/2019/01/what-chinas-antarctic-behavior-tells-us-about-the-future-of-space/>.

## Strategies for Balancing the Present and Future

While the Antarctic Treaty System has kept the peace, problems continue to arise, which include the urge to internationalize the governance, the question of sovereignty, and the presumptive need to explore it more vehemently.<sup>13</sup> As the treaty is up for review in 2048, possible arrangements should be made to uphold and strengthen it. Legal and political decisions should be taken into consideration regarding the potential minerals believed to exist but yet to discover, such as oil, gas, coal, gold and diamonds, before the probable necessity of states become too strong.<sup>14</sup> While it is true that states must rely on natural resources and the continent's sufficiency may fulfil them, the questions arise about its impact on the climate and preservation for the future generations.

As for tourism, limits on visitors' numbers and strict environmental regulations should be made and further developments, such as permanent accommodation like hotels, are to be delt with. To safeguard marine ecosystems and maintain healthy fish populations for future generations, sustainable fishing practices must be implemented. Regional and global partnership are essential to maintain the treaty's 'peaceful purposes.' No nations should be allowed to prepare their military forces in future. The prolongation of existing prohibitions of activities such as mining set forth in the Antarctic Treaty should be of great importance in protecting the continent's unblemished nature and in the protection of its specific biosystems. The unwavering commitment and strong political will of the Antarctic Treaty System signatory countries are crucial for ensuring the continued well-being and protection of the Antarctic region. Although scientific research is essential, it must be carried out in a manner that prioritizes environmental protection and avoids turning into a race between nations that could threaten the region's fragile balance.<sup>15</sup>

## Conclusion

The tension regarding the use of natural resources on the continent comes across as a multifaceted matter that is bound to be weighed up and balanced. While it is true that human activities in Antarctica carry certain benefits, they largely threaten the sensitive ecosystems of the continent

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<sup>13</sup> Ferrada, Luis Valentín. "Five Factors That Will Decide the Future of Antarctica." July 31, 2018, [https://www.academia.edu/38547180/Five\\_factors\\_that\\_will\\_decide\\_the\\_future\\_of\\_Antarctica](https://www.academia.edu/38547180/Five_factors_that_will_decide_the_future_of_Antarctica)

<sup>14</sup> Australian Civil-Military Centre, "Antarctica 2050: Strategic Challenges and Responses", <https://acmc.gov.au/sites/default/files/2020-04/Antarctica%20Booklet%20Final%2020200221.pdf>

<sup>15</sup> Convey, Peter, and Lloyd S. Peck. "Antarctic Environmental Change and Biological Responses." November 2019, <https://www.science.org/doi/10.1126/sciadv.aaz0888>

and to the coming generations. Responding to this challenge involves a very long approach with a large emphasis on the wellbeing of Antarctica for many years to come. Taking these actions, which place the greatest emphasis on sustainability of the region, will enable the preservation of the pristine environment and its natural riches for the future.