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IMPACTS OF TOURISM IN ANTARCTICA

- Between 1992 and 2020 the number of tourists visiting Antarctica increased ten-fold and continues to grow, meaning the negative environmental impacts of tourism are likely to increase.
- Existing regulations do not adequately protect the environment of Antarctica from tourism impacts, which include damage at visitor sites and along travel routes, and the disturbance of wildlife.
- The negative impacts of tourism compound other threats to Antarctica's biodiversity, which risk the survival of many species and the continent's ability to help regulate the global climate.
- Tourism in Antarctica must be effectively and proactively managed, with new safeguards based on science and informed by best practice.

What is the issue?

Since the early 1990s **tourism in Antarctica has grown continually**. Between 1992 and 2020, the number of tourists arriving increased ten-fold, rising to 75,000 in the 2019-20 season and again to 104,897 in the 2022-23 season.

Antarctic tourism has both positive and negative impacts. The Antarctic tourist experience can be both inspirational and educational, fostering public support and investment for the continent's protection.

On the other hand, Antarctic travel has a high carbon footprint. **Tourist activities can also cause damage at visitor sites and along travel routes, and disturb wildlife**. For example, research has shown that tourist activities are causing penguin species to change their reproductive and social behaviours.



*Tourists interacting with a Gentoo penguin (*Pygoscelis papua*) colony at a popular visitor site © Daniela Cajiao*

Measures are therefore needed to better protect the environment of Antarctica from tourism, but there are gaps in existing governance frameworks.

All activities in Antarctica are regulated through the Antarctic Treaty System (ATS), which includes The Madrid Protocol. The Protocol provides broad rules for tourism, however **day-to-day management is mostly self-regulated by the industry** through guidance issued by the International Association of Antarctica Tour Operators (IAATO).

Many researchers and conservation organisations are concerned that **self-regulation is no longer sufficient to protect Antarctica's wildlife and ecosystems** from the impacts of tourism.

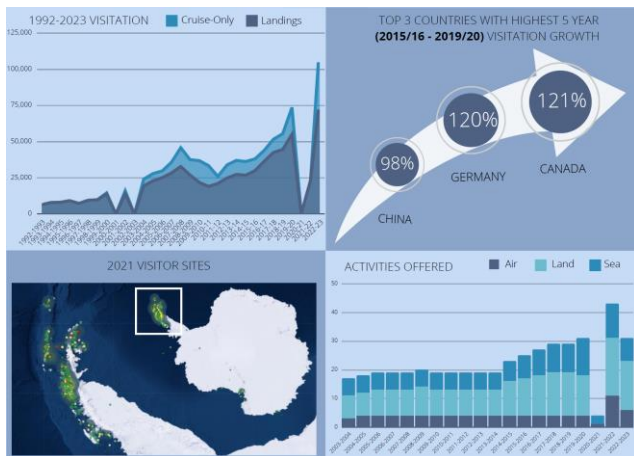
Why is this important?

The protection of the Antarctic environment is vital to achieve global goals for nature, climate and sustainable development.

However, as the Antarctic tourism industry grows and diversifies, the **severity of its negative environmental impacts is likely to increase**. If left unchecked, these **impacts will be exacerbated by the effects of climate change**. For example, reduced sea ice and increased ice-free land areas mean that tourists can visit previously inaccessible places, and a warmer climate will allow the industry to extend the tourist season.

The negative impacts of tourism **compound other threats to Antarctica's wildlife and ecosystems**, such as climate change and [invasive alien species](#).

Combined, these **threaten the continent's unique biodiversity, including species such as krill, fish, seals, whales, penguins and other seabirds**, as well as putting at risk Antarctica's ability to help regulate the global climate.



Visitor trends, fastest-growing source markets, distribution of visitor sites and growth in tourism activities (data source: IAATO)

What can be done?

Tourism in Antarctica must be effectively and proactively managed, with decisions **based on science and informed by best practice**.

Such an approach should consider projections of tourism and climate trends, and will require the **cooperation of stakeholders** including the tourist industry (IAATO and its members), researchers, conservation organisations and governments (via national Antarctic programmes).

More research is needed to inform the policies and implementation of this management approach. All proposed visitor sites and tourist activities should be evaluated using the precautionary principle. Researchers should explore the ecological impacts of tourist activities at local and regional levels, assess existing guidelines and whether tourism operators comply with them, and identify the gaps in current protections.

It is likely new safeguards will be needed, which could include stronger protections within the Antarctic Treaty System or specifying the appropriate type, amount, location and route of tourism activities in the management plans for all Antarctic protected areas.

Continual **monitoring of tourism impacts is essential** to assess and refine the effectiveness of new protections. Governments, research funders and the tourism industry should support monitoring programmes and help coordinate research activities.

Researchers should **develop indicators that go beyond counting visitor numbers**, and reflect wider impacts on Antarctica’s biodiversity, wilderness and ecosystem services.

Efforts should also be made to **enhance the positive impacts of tourism as a conservation tool**. Measures could include incorporating more conservation education into visitors’ schedules, and involving tourists in Antarctic citizen science programmes in which members of the public help gather data for research projects.

The long-term positive effects of the Antarctic tourist experience on visitors’ behaviour should also be evaluated.



Tourists participating in the FjordPhyto citizen science project. Tourist vessels also help scientists access their research sites. © Allison Cusick

Where can I get more information?

IUCN WCC 2016 Resolution 032
Achieving representative systems of protected areas in Antarctica and the Southern Ocean
portals.iucn.org/library/sites/library/files/resrecfiles/WCC_2016_RES_032_EN.pdf

Strategy for IUCN’s Programme and Policy on Antarctic Issues (IUCN, 2009)
iucn.org/content/strategy-iucns-programme-and-policy-antarctic-issues

A Strategy for Antarctic Conservation (IUCN, 1991)
portals.iucn.org/library/node/6032

Tourism and Non-governmental Activities (ATS, 2022)
ats.aq/e/tourism.html

Proactive Management of Antarctic Tourism: Time for a Fresh Approach. ATCM XLII, IP 26 (ATS, 2019)
documents.ats.aq/ATCM42/ip/ATCM42_ip026_e.doc

Cajiao D, Benayas J, Tejedo P, Leung Y-F. Adaptive Management of Sustainable Tourism in Antarctica: A Rhetoric or Working Progress? *Sustainability*. 2021; 13(14):7649.
doi.org/10.3390/su13147649