

Research paper**Received: 13 June 2023, Accepted: 17 July 2023, Published online: 31 July 2023****DOI: 10.21625/archive.v7i2.964****Tourism in a Unique Destination: Case study Antarctica****Pelagia Moloni***MSc Student at University of Thessaly, Greece**Email: peggy.moloni@gmail.com*

Abstract

Tourism in Antarctica has been dynamically developed in recent decades, although it is located in a small geographical part of the continent. The main reason that visitors plan a trip to the destination when the opportunity is given is the natural landscape and wildlife. In addition, the overheating of the planet that causes ice to melt has enhanced the feeling of fear, as there is severe environmental concern for the coming years. Space and seasonal exclusions make it even more special, and the tourist product that is offered by this continent is expensive and requires a lot of preparation. Tourism activity in such a fragile environment has sparked several reactions in the past, mainly from the scientific community, which is the main recipient of the negative effects of tourism. Furthermore, organized efforts have been made so that the offered product will promote more environmentally friendly trips that will affect the ecosystem as little as possible.

The main objective of this research is to analyze this kind of tourism because of the need for new forms. The positive and negative impacts that tourism can have on the environment and the statistics on the arrivals and countries of origin of tourists in recent years are analyzed. Moreover, the tourist packages that seem to be in the greatest demand among visitors are presented. The main research question of this paper is whether this destination can host intense tourism activity. Following an extensive bibliographic review, the research makes it clear that the study area cannot support strong tourism activity, even though future tourism forecasts report an additional increase in arrivals.

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Keywords*Antarctica, last chance tourism, expedition cruises, ecosystem*

1. Introduction

When it comes to Antarctic tourism, it is a rather recent phenomenon that takes place under certain circumstances. Two of the main reasons for this destination's footfall are its unique landscape and wild life. Firstly, due to its location and extreme climate, the landscape is enveloped in mystery, enticing many visitors to explore it (Bauer, 2013). Moreover, Antarctica is home to a sizable fauna (albatrosses, penguins, whales, etc.) that provides an element of intrigue for visitors, as well as various kinds of invertebrates, drawing the attention of ecologists and researchers (World Travel Guide, 2017). Therefore, visitation motives correspond to a range of visitors' needs, and the area's unique attributes reinforce their desire to travel to Antarctica.

Beside the reasons behind one's wish to travel to Antarctica and the trends influenced by consumers' emerging needs, protecting the fragile natural environment of the area is paramount, as is making sure that any activities held there have the smallest possible footprint (Mason and Legg, 1999). Several organizations have been founded and deployed

to this end, while the Protocol on Environmental Protection, or Madrid Protocol of the Antarctic Treaty System has been in place since 1998 - namely, the main body for biodiversity conservation and management, regulating, among others, tourist activity in the area (Antarctic Treaty, 2023). This area was selected due to its increasing tourist demand despite its "fragility", which intrigues many researchers. The research questions the present paper seeks to answer are the following:

What is the environmental impact of tourist activity in Antarctica?

-Is intense tourist activity possible in such a particular and eco-sensitive destination?

2. Literature Review

Technological advancements, increased leisure time, new social and consumption standards, and the shift towards traditional life and nature, coupled with the pursuit of an alternative lifestyle, are the pivotal factors contributing to the development of special forms of tourism (Kokkosis et al., 2011). The latter lead to the emergence of new destinations and experiences, as well as new tourist demands (George et al., 2009). Tourism in very particular destinations is a category of special forms of tourism and is comprised by people or groups wishing to explore a destination that is relatively hard to access and demonstrates several particularities (Lee and Bai, 2016). This genre was created by the desire of potential visitors to partake in an activity or their interest in an area or destination (Douglas and Derret, 2001). Tourists who choose to visit a particular destination are a rather niche market, as they are interested not just in the area but also in the broader experience (Rittichainuwat, 2018). Tourist Activity and the Antarctic

2.1.1 Origins and historical context

During the 1950s, ships arriving from Argentina and Chile brought passengers to the South Shetland Islands, their number exceeding 500. In 1966, businessman Lars-Eric Lindblad started embarking on exploration voyages, which also had an educational function, with a group of tourists (Palmowski, 2020). Cruise tourism began in 1969 with Lindblad Explore, which was exclusively designed to transport tourists to Antarctica (Headland, 2009). The collapse of the Soviet Union boosted cruise tourism as icebreakers and special Soviet Navy ships were chartered to relevant companies (Molenaar, 2005). The periods 2006-2007 and 2008-2009, Golden and Star Princess arrived in Antarctica respectively, carrying 3,700 passengers.

The aviation industry took off in 1957 with Pan American World Airways and the first tourist flight to the area's mainland, while in 1959 Linea Aerea Nacional carried 66 passengers to the South Shetland Islands. In 1977, Australia and New Zealand operated short overflights over Antarctica (Bauer, 2007). More frequent flights began in the 1980s by Chilean Air to King George Island. Flights for the rest of the accessible mainland areas of Antarctica began at the end of the same decade by Adventure Network International (Headland, 2009). Today, the largest part of tourist expeditions to Antarctica are carried out by sea (Antarctica flights, 2022).

2.1.2 Last chance tourism

One of the gravest consequences of climate change is the melting of ice sheets, causing sea levels to rise, along with fears for the future sinking of islands. This draws visitors to destinations such as Antarctica, Greenland, Alaska, and Tuvalu, as people want to see them before they vanish (Eijgelaar et al., 2010). This kind of tourism has been heavily criticized and has been labeled "climate tourism", "extinction tourism", "disaster tourism", "climate sightseeing," and "climate disaster tourism" (Leahy 2008, Salkin 2007, Gras-Dijkstra 2009). According to Stewart et al. (2009), "last chance tourism" was first used as a term to describe the increasing tourist demand for the glaciers.

Some operators have acknowledged the potential impact of tourist activity on the fragile environment of these destinations; however, others consider it an opportunity to raise awareness. Specifically, the Antarctic and Arctic regions have become more accessible due to climate change, as melting ice allows tourists to put some areas, now accessible by cruise liners, on their destination lists (Gosling and Hall, 2005). The visitors' motivation to travel there is to experience nature, to explore, to learn, to have an adventure, and to a smaller degree, to relax (Eijgelaar et al., 2010).

2.1.3 Expedition cruises

Cruise tourism is one of the main forms of special tourism and contains various sub-categories. According to Diakomihalis (2009: 147), cruise tourism combines transportation, F&B services, culture, leisure tourism, and entertainment on board in just one voyage. Special expedition cruises is a subcategory of cruise tourism; this genre is carried out mainly in areas like Alaska, Antarctica and North Pole, which is why a lot of people call them "adventure cruises" (Should be cruising, 2022).

This particular subcategory involves smaller vessels (20 to 500-passenger capacity), most of which are designed to weather the particular conditions of the area. Their small size allows them to reach areas impossible to access by larger cruise liners. Even though any tourist activity impacts the host area in some way, this type of travel has a minimal environmental footprint. Moreover, higher sustainability is achieved when travelers are required to attend seminars and expert round tables during their trip.

2.2 Statistical data

Arrivals in Antarctica have been increasing over the years. The period 1989–1990 saw the visitors reach 2,500, while according to Figure 1, in 2008–2009, tourist arrivals rose to 37,000 and in 2019–2020, they exceeded 74,000 (IAATO, 2020). This percentage is expected to increase in the following years, even though it came to a halt due to the COVID-19 pandemic. It is worth mentioning that in 2020, tourism in the area was not significantly impacted, as the tourist season lasts up until February.

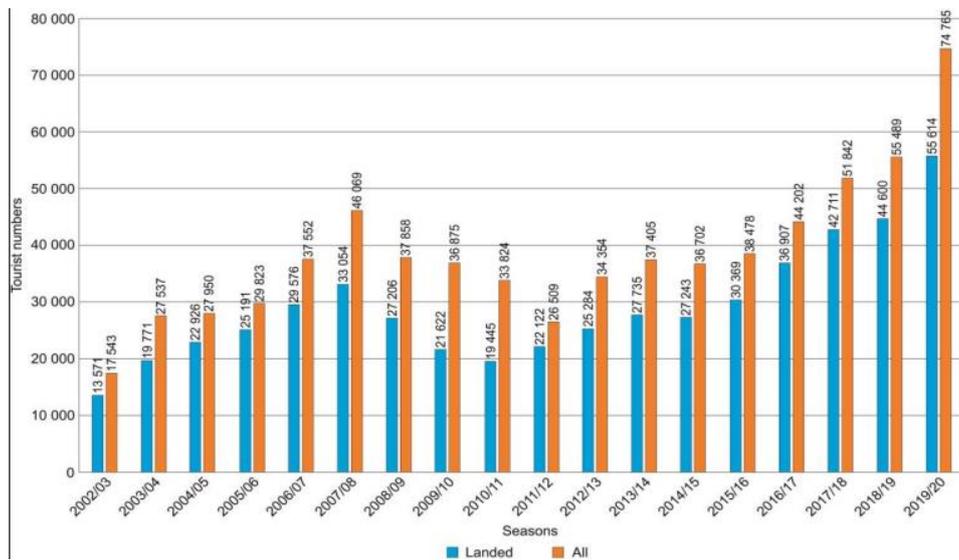


Figure 1: Progression of arrivals over time

Regarding visitor profiles, in the early 2000s, Antarctica’s tourist market was primarily North American, Australian, and European (Bauer, 2001). As seen in Figure 2, this remains relatively consistent in the tourist period 2019–2020, except for the addition of China, which follows the USA at the top.

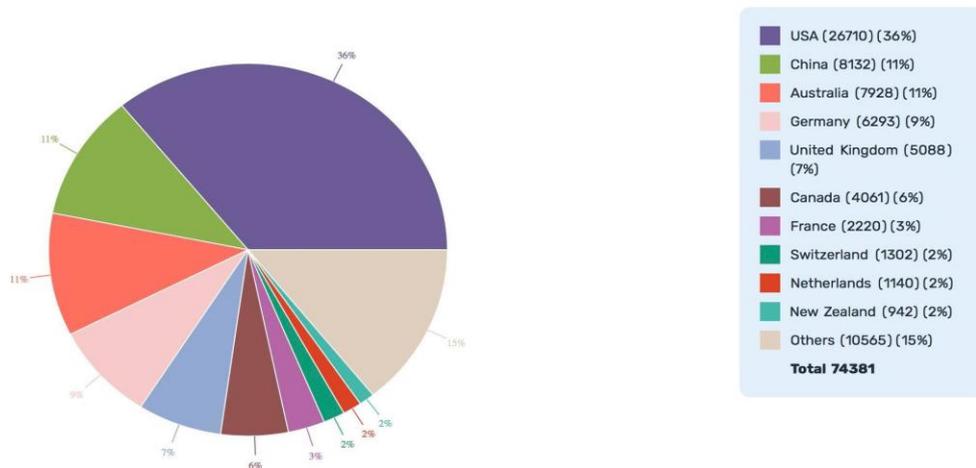


Figure 2: Visitors' origin countries for 2019-2020

3. Methodology

The present study is a combination of methodological approaches, namely a case study and content analysis. Specifically, the method used was secondary research for the theoretical framework and the case study, as the latter was based on obtained information and third-party sources, such as books, scientific articles, and statistics. Through the literature review, we try to answer the aforementioned research questions based on a critical analysis of existing published work (literature reviews, empirical, and theoretical research).

4. Results

In 1991, IAATO (International Association of Antarctica Tour Operators) was founded as a membership organization promoting eco-friendly tourism through guidelines. This organization advocates responsible travel to Antarctica with a minimal or zero footprint, and it has put in place a series of measures all visitors are obligated to conform to. Those traveling by ship have to participate in educational seminars on the rules applied on land as well as the distance they have to keep from the local fauna. Moreover, a limit has been imposed on the number of passengers and the duration of visits; the consumption of food and alcohol, as well as smoking have also been forbidden. During breeding seasons, some areas are off-limits. Today, they cooperate with more than 100 members, including governments, scientists, travel agencies, companies, and NGOs (IAATO, 2022). Regular monitoring is carried out, which enables a thorough assessment of the impact of tourist activity (Frame et al., 2021).

4.1 Positive impact

Though the environment is the main receiver of touristic activity, there are other benefits from Antarctic travel which, as we shall see, are long-term. According to Powell et al. (2008), tourists who visited Antarctica saw an improvement in their environmental attitudes as they became more aware of environmental protection and were informed on relevant issues. Therefore, IAATO's initial objective is achieved; visitors return home as advocates of Antarctic ecology. Moreover, a large number of these visitors become more interested in environmental protection and natural resource conservation in their day-to-day lives. The aforementioned research showed that, after taking an Antarctic trip, visitors actively participate in charity events regarding environmental protection and conservation in general. Today, experts claim that we must prioritize the maximization of positive impact and develop methods to turn Antarctic tourists to advocates of Antarctic conservation (Zeppel and Muloin 2008, Alexander et al. 2020). According to Snyder (2007:5), tourism can be used to not only turn visitors into 'ambassadors' for the protection of the visited regions but also into supporters of conservation activities and organizations worldwide. Properly educating visitors on ecological matters can convey the importance of the area for the larger ecosystem.

4.2 Negative impact

Concerns arise from the growing scale of tourist activity and its future consequences. Many have deemed decision-making and implementation to be rather weak, as many of the regulations are not legally binding (Enzenbacher, 2007). Visitors unintentionally bring in bacteria, which destroy the area's ecological equilibrium (Huiskes et al., 2014). Moreover, tourist activities affect the lives of organisms, seeing that quite often the breeding period coincides with the arrival of tourists; thus, their populations are diminishing (Leaper and Miller 2011, Barbosa et al. 2021). Regarding air travel, the increase in the frequency of routes due to increased demand, the cruise lines' determination to obtain access to ever more areas, as well as global issues such as climate change and pollution, give rise to growing fears, as future consequences have not been studied extensively in recent years (Lei et al. 2020, Tejedo et al. 2022). Finally, there are major concerns regarding the prospective demand for construction in the area, which will lead to the deterioration of the natural landscape (Liggett et al., 2011).

4.3 Tourist product

Tourist activities take place from November to February, since the rest of the year the area is inaccessible by ship due to sea ice (Verbitsky, 2014). Antarctica is not an easily accessible destination, which is why the scale of tourism there is small in relation to the size of the continent and touristic activities are concentrated in specific locations (Vila et al., 2016). Arctic tourism requires extensive preparation, like special permits, proper clothing, experienced staff, and logistical support, as any kind of oversight or weather change can result in the trip being cancelled. Tourist activities are concentrated on the Antarctic Peninsula and the islands off the western coast (Neumann, 2020).

98% of the services provided to visitors are different kinds of cruises. They vary in duration, level of comfort, and accessibility, while their range of activities is also emphasized (Figure 1). Certain cruises provide seminars by experts, while others provide access to hard-to-reach areas (Antarctic Treaty Consultative Meeting, 2022). Cruises aboard small or medium-size vessels provide activities such as scuba diving, water skiing, rafting, and camping, while larger cruises provide landscape views from the deck or the coast. Ships operating in the area are categorized as follows (Palmowski, 2009):

- YA: 12-passenger yachts
- C1 class 1: 13 to 200-passenger ships
- C1 class 2: 201 to 500-passenger ships
- CR: Vessels with a capacity of more than 500 passengers

Table 1: Tourist activities 2018-2019

Table 1: Tourist activities 2018-2019	Column A (t)
Tourist activity	Percentage
Driving Small Boats/Zodiacs	41.6%
Small boat cruise	25%
Ship Cruise	18.1%
Rafting	3.4%
Exploring	2.9%
Pollar Plung	1.2%
Snowshoeing	0.9%
Hiking	0.7%

Water skiing	0.6%
Camping	0.6%
Scuba Diving	0.4%
Bird Watching	0.4%
Other	2.1%
Total	100%

Source: Antarctica Tourism (2020), Processed by researcher

Trips to Antarctica usually last 8–25 days, and the cost varies from €4,500 to €20,000. The most commonly used ports of departure are those in Buenos Aires and Ushuaia in Argentina and in Punta Arenas in Chile. In recent years, the Indian tourist market has selected this area as a honeymoon destination. The top two tourist packages are the Antarctic Explorer: Discovering the 7th Continent and the South Georgia and Antarctic Peninsula: Penguin Safari, lasting 11 and 16 days, respectively. Both trips share the element of educational activities on board (seminars and presentations by experts) as well as the observation of rare animal species from a safe distance (Quark Expeditions, 2022).

5. Conclusions

Antarctic tourism has been severely criticized, mainly by the scientific community, since it used to be one of the few places on earth still intact. Today, the area presently studied has lost this element, as more and more tourists had been visiting it every year up until the outbreak of COVID-19. Tourism in this area is highly seasonal and concentrated in more easily accessible areas with unique natural and historical attributes. It is estimated at less than 0.5% of the continent, mainly around the Antarctic Peninsula. The area's uniqueness makes it increasingly enticing to tourist markets, which is why tourism there is continuously growing. One of the most serious modern challenges Antarctica faces is effective tourism development planning and the comprehensive monitoring of tourist traffic.

The studied area cannot support intense tourist activity. Knowledge on tourism's impact is steadily growing, but the quantification of its contribution remains largely unknown. The precise determination of the impact of tourism on the area is an ambitious and complex endeavor. It requires an approach combining long-term impact monitoring and short-term experimental studies to detect any negative impact of Antarctic tourism. Uncontrollable tourism growth can have irreversible effects on the environment. However, it is rather optimistic that many measures taken to restrict human activity are now policy-oriented and therefore mandatory.

Monitoring tourism is of vital importance for the continent. IAATO and the other organizations and travel agencies it works with are making an effort to promote packages with ever-lower environmental impacts through the measures they implement. The Antarctic Treaty is dedicated to the protection of the environment and science. Education is a prerequisite for any and every visit, thanks to IAATO's work. Informed travel contributes to a deeper understanding of the objective, the need, and the responsibility of tourism for the continent's protection. This is why the activities provided are designed to impact the local fauna as little as possible, and access to high reproduction rates is not allowed.

6. Discussion

In recent years, significant progress has been made in understanding the environmental impacts of Antarctic tourism, which is largely reflected in the measures that have been implemented. However, it seems that all accessible areas are a landing point for visitors. An exception is the inaccessible South Georgia Island, where it is the most breeding area, most species are found there, and monitoring is done remotely. It is proposed to adopt similar policies in other areas, especially during breeding seasons. According to IAATO (2023), more than 50 cruise ships are approved to sail in Antarctica for the 2022–2023 season. This ranges from expedition ships to ocean ships from mainstream cruise

lines that operate scenic cruising along the Antarctic Peninsula. Therefore, the number of ships that can visit the area is controlled every year in order to protect and preserve it. The present research does not propose a limitation on the number of these but a limitation on their size, as until today it seems that all categories of ships that visit Antarctica can approach at close range. As a consequence, it is considered necessary to limit the large ships to a safe distance and to transport visitors inland with smaller ones.

Human activities in Antarctica were increasing before the onset of the COVID-19 pandemic, and tourism was no exception. Furthermore, the pandemic due to the temporary suspension of research and tourism activities, created an opportunity to re-evaluate the tourism activity and examine the tourism pressure, something that unfortunately did not happen. However, it seems that the return of tourist activity did not have changes in terms of observing the measures and restrictions with the pre-pandemic period. Today, further scientific research on the effects of tourist activity in the study area is deemed necessary as its quantification remains unknown.

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Ethics approval

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Conflict of interest

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