

FACT SHEET



CURRENT KNOWLEDGE OF THE THEME:

Tourism in Polar Regions

Tourism in the Arctic and Antarctic has increased noticeably, especially in the last two decades. In Antarctica, initial tourism activities have occurred since the late 1950s, with annual visitor numbers only increasing significantly since the 1990s.^{1,2,3} Since the 1992/1993 summer season, the number of ship voyages has increased almost twelvefold.⁴ The 2019/2020 season saw a peak in annual visitor numbers, with approximately 70,000 tourists (see Figure 1).⁵ In the Arctic, where tourism has been practised since the 19th century,

tourist numbers are higher, but are not centrally recorded. It is estimated that the number of cruise passengers has increased from about 50,000 in 2005 to about 80,000 in 2016, an increase of 60%.^{1,6} With the greater influx of visitors to the polar regions, there has also been greater diversification of tourism activities.³ Polar tourism, especially in the Arctic, has now advanced to become an economic sector that represents an important income source for an increasing number of people, including the local population. However, these economic interests also bring a certain potential for conflict and raise the question of how tourism can best be reconciled with the protection and conservation of the polar regions.^{1,6,7,8}

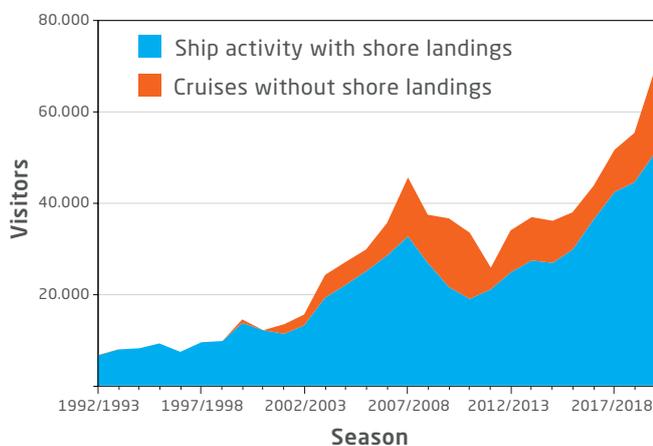


Figure 1: Tourist numbers in Antarctica.⁵

How is tourism in the Arctic and Antarctic regulated politically?

The Arctic political framework is different from that in the Antarctic, which is why tourism is regulated differently. The Arctic is a not quite clearly defined area north of the Arctic Circle, containing parts of the Arctic states (the Kingdom of Denmark with Greenland, Finland, Iceland, Canada, Norway, Russian Federation, Sweden and the United States of America), which are responsible for political administration. Only the central Arctic Ocean is international waters. Tourism is, therefore, essentially a country matter. As a result,

site-specific or regional behavioural guidelines apply to protect and preserve the Arctic environment.^{4,10} As the only intergovernmental forum involving indigenous peoples, the Arctic Council coordinates exchanges and cooperation among Arctic states on important issues such as environmental protection and sustainable development.¹¹ The only transnational set of rules that applies in the Arctic and also in the Antarctic is the „Polar Code“ adopted by the „International Maritime Organization“ (IMO), which lays down uniform rules and standards for shipping in polar waters.¹² Antarctica was declared by the Antarctic Treaty of 1961 to be an area to be devoted exclusively to peaceful use and to scientific research. The „Environmental Protection Protocol“ (USP), adopted in 1991 and part of the Antarctic Treaty System, created comprehensive and internationally valid environmental protection regulations. According to the USP, an Antarctic voyage must be assessed in advance for its impact on the Antarctic environment, although no general permit requirement is stipulated. Germany has transposed the USP into national legislation through the „Environmental Protection Protocol Implementation Act“ (AUG), which means that a trip to Antarctica is subject to approval by the Federal Environment Agency.¹⁴ In Antarctica, strict codes of conduct and treaties apply, setting further limits to tourism. Antarctic tourism is regularly discussed at the annual Antarctic Treaty Consultative Meetings (ATCMs). Along with the increasing number of visitors, there have also been significantly more tourism-related discussions in the last two decades. In addition to representatives of the Antarctic states, various logistics associations, environmental protection, and tourism organizations take part in the meetings as observers.^{7,10,15}

IAATO: The „International Association of Antarctic Tour Operators“ is an organisation of tourism operators and companies in Antarctica, founded in 1991. Since its founding, 95% of cruise operators have become members of IAATO. The aim of IAATO is to make tourism as safe and environmentally compatible as possible and to promote international cooperation with science and research.

AECO: The „Association of Arctic Expedition Cruise Operators“ is another organisation of Arctic tourism operators and companies. Founded in 2003, the AECO has fewer members than IAATO. AECO has similar goals as IAATO but in addition, it aims to protect the culture and habitat of the indigenous population and to exchange information with the various national stakeholders in the Arctic.



Christmas Village in Rovaniemi, Finland / Shutterstock.

What makes the polar regions attractive as tourist destinations?

Apart from the fascination and attraction of the polar regions, some people travel to the Arctic or Antarctica to set themselves apart from „normal“ tourism and to be able to tick off another exclusive destination on their list. Antarctica, in particular, is appealing to those who have already visited all the continents of the world and now want to see and experience the South Pole as well. Others are driven to the unique polar landscapes by a thirst for adventure, a love of untouched nature, or a longing for seclusion and silence. Many tourists come to the polar regions just to see polar bears, penguins, and seals. The culture and way of life of the Arctic indigenous population also exert an attraction on some visitors.¹⁸ In Antarctica, where humans have never lived, it is possible to visit remains of historical sites, such as abandoned whaling and sealing stations, or relics of past voyages of exploration and discovery. With ongoing global warming, which has already brought about clearly visible changes, especially in the Arctic, a „last chance tourism“ has established itself. Tourists want to see the endangered polar ice landscapes and the animals living there with their own eyes before they disappear.^{1,4,19}

What types of tourism are there in the Arctic and Antarctic?

A distinction can be made between ship-, land- and air-based tourism, whereby a trip to the Arctic or the Antarctic is in most cases a combination of ship or air travel and land visits. With the increasing numbers of tourists in both polar regions, the choice of possible activities has also increased.³

Arctic

In the Arctic, polar tourism is already well advanced and offers a variety of possible forms of travel. Cruise tourism accounts for a large part of all tourist activities in the Arctic. The season for cruises lasts from May to October. Common cruise destinations include Longyearbyen and Ny Alesund on Svalbard, Qaortoq and Nuuk on Greenland, Kamchatka, Franz Josef Land and Wrangel Island in the Russian region, and the North Pole.²⁰ Luxury cruises offer a high level of luxury and comfort depending on the price range and depending on the itinerary, several areas of the Arctic are visited. On so-called expedition cruises, shore excursions are organized in small groups, so the ships are smaller. Tourists can, for example, observe animals, go on hikes or, depending on the tour, visit villages of the indigenous population. During the expeditions, visitors are accompanied by informational lectures.^{1,4,7} Tourism activities linked explicitly to research, e.g. „Citizen Science“ projects, are becoming increasingly popular.^{21,22} Next to a cruise, air-based tourism is the most common form of travel in the Arctic. Air travel is much cheaper, and a wide range of destinations in the Arctic can be reached by plane.³ There is now even a wide range of low-cost air routes offering short trips. For example, Iceland’s airline IcelandAir offers air travellers between Europe and North America a free stopover of 1-7 days at a location of their choice in Iceland.²³

In each Arctic area, it is possible to engage in a variety of different tourist activities. There are extreme sports and outdoor tourism in almost all Arctic areas, such as kayaking, canoeing, dog sledging, standup paddling, skydiving, snowboarding, ice climbing, snowshoeing, ice and mountain hiking, skiing and snowmobile tours. However, tourists can experience the unique nature during ecotourism activities even without adventure sports. The remote Arctic regions are also popular with sport fishers and hobby hunters, e.g. in Russia.^{1,4,6,7}



Dog sledging in Rovaniemi, Finland / Shutterstock.



Whale watching on the Antarctic Peninsula / Shutterstock.

Culture lovers can visit the villages of local indigenous people in Greenland, northern Scandinavia, Finland, Sweden and Canada.^{1,18} Tourists often combine different activities. Some Arctic attractions have now become a destination for mass tourism, such as watching the Northern Lights^{24,25}, the Christmas village in Rovaniemi, Finland^{26,27}, Whale watching^{28,29}, the Blue Lagoon³⁰ and the New Year’s celebration in Iceland³¹.

Antarctic

The tourism sector is much smaller compared to the Arctic. 95% of tourism activities are related to ship-based tourism. Since as early as the mid-1960s, expedition cruises to Antarctica have been the most common form of tourism. According to a decision of the ATCM, a maximum of 100 tourists may go ashore at the same time. Ships with more than 100 passengers are therefore only allowed to land tourists on a rotating basis.^{3,7,32} Expedition cruise ships are smaller and have room onboard for only 100 to a maximum of 500 passengers. There must also be at least one trained guide for every 20 tourists. Expeditions on land, similar to those in the Arctic, usually consist of animal observations, small hikes, visits to research stations, visits to historical sites and monuments, and accompanying informational lectures. Shore excursions last either a few hours, or tourists may stay overnight in small numbers in seasonal tented camps or, less frequently, at some research stations. However, access is not allowed to some research stations, such as the German ones. Cruise ships without a planned shore visit do not stay long in Antarctica. Larger ships with capacities for up to 2,500 people on board are often used for these „cruise-only“ trips.^{1,2,3,16,33} Besides cruise tours, there are commercial yacht tour operators. Every year, a few hundred tourists arrive in Antarctica on private yachts, and their number has also increased in recent years. There is only room for a few people on board.



Blue Lagoon, Iceland / Shutterstock.

The private travellers pursue individual extreme and adventure ventures on land similar to those in the Arctic. In the process, tourists often venture far into the Antarctic interior. If the travellers are travelling without professional escorts, a permit or training must ensure that the travellers are familiar with the conditions and risks on land, have the appropriate equipment and insurance, and comply with the code of conduct.^{1,3,4,7,34} Since the 1970s, overflights or direct flights to Antarctica have also been offered as a tourist activity. An overflight over Antarctica is one of the most cost-effective variants of Antarctic tourism. When flying to Antarctica, tourists stay overnight in seasonal tented camps or board a cruise ship after landing. These so-called „fly-and-cruise“ trips to Antarctica are becoming increasingly popular.^{1,3,7} In Antarctica, about 95% of tourism occurs at about 160 possible landing sites on the Antarctic Peninsula and its offshore islands because the waters there are largely ice-free in the southern summer months navigable for cruise ships. Cruises to the Ross Sea or East Antarctica are also possible, although there are only isolated landing sites. In contrast to the Arctic, the tourist season takes place exclusively from November to March, as temperatures on the Antarctic Peninsula and the coasts in the Antarctic summer are, on average, around freezing point and thus considerably milder.^{1,2,15}

Who travels to the Arctic or Antarctic?

Cruises to the polar regions are relatively expensive with prices of several thousand euros, depending on the equipment, size and tour. On luxury cruises with prices between 12,000€-25,000€ or more, one will find mainly wealthy and aged clientele, some being regular customers. Meanwhile, there are also less expensive offers with correspondingly less luxurious facilities.^{35,36,37} In the Arctic, where many travel alternatives to cruise vacations are offered, the clientele is more mixed than in the Antarctic. The majority of Arctic tourists come from

the United States, Australia, Great Britain, and Germany, with the remainder coming from Europe and Asia's more affluent countries. However, there is also a lot of domestic tourism in the Arctic.^{20,38} In Antarctica, most tourists come from countries similar to those in the Arctic.³⁹

Polar tourism as an industry

In the Arctic, tourism has long been an established industry. For example, for Iceland, tourism has become a significant income source and is therefore also subsidized by the state. In the other Arctic states, such as Norway or Finland, Arctic tourism is also an important component of the national economic power. In Greenland, Canada and Russia, the United States and Sweden, tourism is expanding due to increasing demand. Since not all tourism operators, especially cruise ship companies, are from Arctic countries, the local population benefits only partially from tourism.^{4,6,8} Even though tourism has not been operating in Antarctica for that long and the environmental impact of every Antarctic trip is subject to mandatory assessment, the cruise industry, in particular, has become a lucrative business. The number of annual Antarctic tourists is estimated to be equivalent to one-third of the annual Arctic tourists.^{1,4}

What are the impacts of polar tourism?

Negative impacts

Much of the negative impact of polar tourism is due to climate-damaging greenhouse gas emissions from cruise ship and air traffic. In addition, until a few years ago, most ships in both the Arctic and the Antarctic used heavy fuel oil. The burning of heavy oil produces soot particles („black carbon“) that are deposited on snow and ice, reducing their ability to reflect the sun („albedo effect“). Ice and snow thus absorb more heat, energy and melt.^{1,7,40,41,42} Therefore, a ban on heavy oil for ships navigating in Antarctic waters was imposed in 2011. In the Arctic, the Polar Code previously only recommended that ships not use environmentally harmful heavy fuel oil.^{1,2,4} In 2020, a ban on the use of heavy fuel oil as a marine fuel was adopted for the Arctic, to apply from July 1, 2024. However, ships flying the flag of the littoral states will be allowed to use heavy fuel oil until 2029.⁴³ In addition to exhaust gases, ships generate various types of wastewater, such as black, grey and bilge water. In the event of an accident, however, the pollution of the seas is even more serious, as considerable quantities of fuel and lubricants, along with other harmful liquids, are released uncontrollably into the sea, where they are broken down only very slowly due to the climatic conditions. In addition to ships, the inflatable boats' engines used to bring tourists ashore pollute the air, water,

snow, and ice on site. Ships and engines also generate sound and pressure waves that have a negative impact on marine mammals such as whales, for example.^{1,7,12}

In addition to cruise expeditions, individual tourist trips also have a negative impact on the polar environment. Individual tourists can be less or not at all controlled with regard to compliance with the locally applicable behavioural guidelines, as they are often travelling without travel companions specifically trained for the polar regions. The wide range of activities, such as extreme sports or adventure tours, can directly threaten the environment under certain circumstances. Tourists also risk their own safety through lack of preparation and equipment and the safety of those who provide assistance in the event of an accident. Individual and adventure tours are increasingly advertised in the media and thus find more and more imitators.^{1,3,34} Growing tourist interest also means a greater need for onshore infrastructure. The myth of pristine environment and seclusion for which people travel to the polar regions now has to be maintained in some places for appearance's sake because of the greater volume of tourism. Ship tour operators, therefore, plan well in advance who will go to which landing sites and routes, and when, so as not to encounter any other ships.^{1,3,7,15}

indigenous people with a potential source of income, for example, by selling handmade souvenirs to tourists. However, overall the implications have to be viewed at least ambivalently because in most parts of the Arctic the negative consequences on indigenous lifestyle are prevailing, for example through environmental changes.

Furthermore, tourists acquire knowledge about the polar regions during their trip. They are also sensitized to the special need to protect nature and wildlife - especially given global climate change and increasing interest conflicts. However, it is difficult to assess the extent to which the impact of polar tourism itself is critically reflected by tourists and whether the knowledge acquired leads to a change in awareness and lifestyle.^{1,7}

Ultimately, polar tourism's negative or positive impacts depend on the frequency, type of activities, and quality of implementation. Investments for the use of modern ship technology, the responsible regulation of visitor numbers, the necessary instruction and consistent adherence to behavioural guidelines for shore leave are some measures that make environmentally compatible tourism quite possible.^{1,7} It remains to be seen how effective these measures are in view of the steadily increasing numbers of tourists and the long-term impact of individual tourism in the polar regions.



„Minimizing cumulative negative environmental impacts from tourism over-use requires both experience and environmental responsibility on the part of individual tour operators and overarching mandatory regulation.“

Dr. Michaela Mayer / Director of Institute for sustainable activities at sea - INASEA

Positive impacts

Tourism can also have positive effects if it is properly regulated and organized. First of all, it is in the interest of the tourism industry that the nature of the polar regions remains worth visiting. Therefore, tourism operators support the protection and preservation of the environment, for example, by supporting the creation of nature reserves or the maintenance of historical-cultural sites. For example, the IAATO has formulated tourism behaviour guidelines that were later used as a template for internationally applicable guidelines in the Antarctic. In the Arctic, tourism also provides local

Outlook: What does the future hold for polar tourism?

In the past, there have always been temporary drops in the annual number of visitors to the polar regions, for example, because of the economic crisis in 2008/2009, due to the IMO's ban on heavy oil in 2011, or the start of the Covid19 pandemic in 2020. After the drops, however, tourist numbers have always risen sharply again. It is estimated that the intensity of tourism will continue to increase, increasing the negative impacts for the polar regions. In addition, the decrease in sea ice extent - especially in the Arctic - will continue, making the polar regions more accessible and extending the tourist season.¹ To meet the growing demand, tour operators are building more and more new ships that are being upgraded or refitted specifically for the polar regions. At the beginning of 2020, 36 new expedition cruise ships have entered the market. More are already being planned for the coming years.⁴⁵ These prospects make the regulation of tourism and compliance with existing measures and guidelines with experienced personnel more critical. Conceivably helpful would be an international certification system that uniformly defines the quality of personnel, visitor management, and safety, technical, and equipment standards. In the Arctic, however, mandatory uniform standards are more challenging to implement.

Better recording and assessment of cumulative environmental impacts also need to be advanced. For the future, it is hoped that the negative impacts of tourism will be taken sufficiently seriously to ensure that the unique nature and wildlife of the Arctic and Antarctic are preserved and maintained.^{1,3,7}

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