Tourism in Antarctica

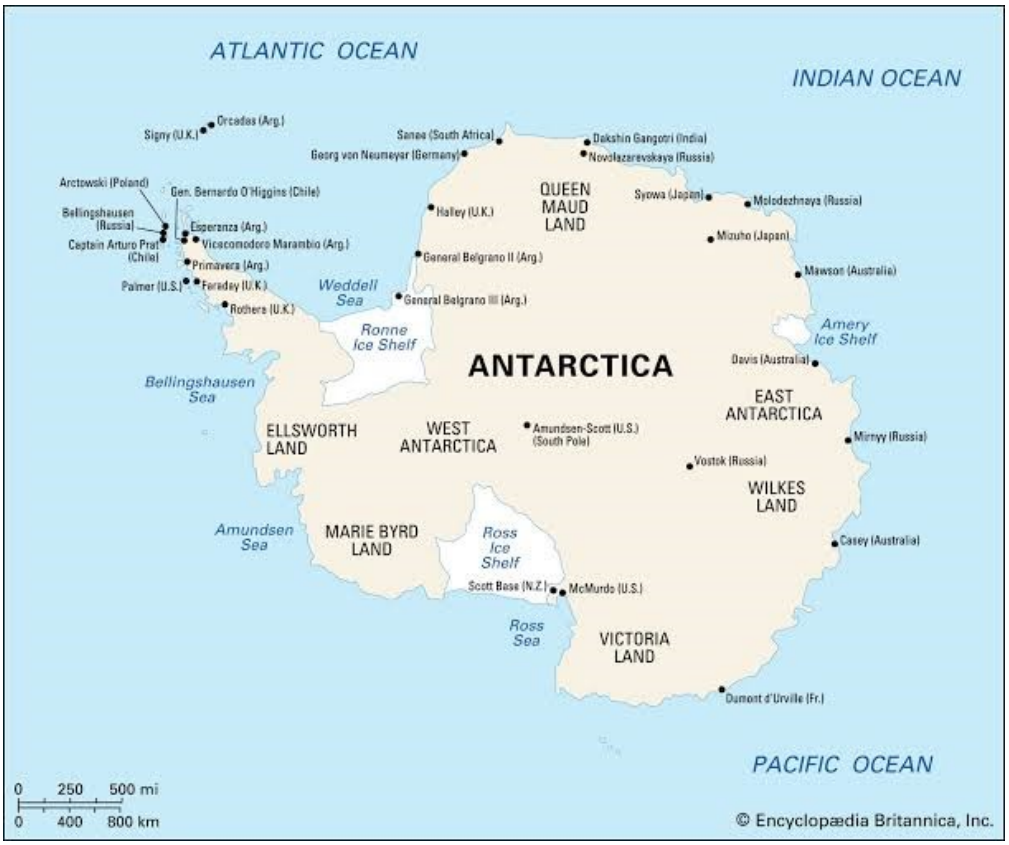
Mains: *GS -I – Geography | GS-III – Ecology & Environment*

Why in News?

Unchecked tourism in Antarctica is rising sharply; this surge threatens the fragile ecosystem, making sustainable tourism essential to protect the continent's future.

What are the features of Antarctica?

- **Antarctica** – It is the coldest, windiest, and driest of all the continents on Earth.
- **Geography** – It is one among the seven continents of the Earth and contains the geographic South Pole.
- **Size** – It is the 5th largest continent.



- **Coverage** – Antarctica is covered by ice sheets nearly 1.6 km thick, covering about 98% of the entire continent, and this is nearly 90% of the entire world's ice.
- **Source of water** – About 70% of the world's freshwater reserves are frozen in Antarctica.
- **Climate** – Antarctica has an extremely cold, dry climate.

- **Precipitation** – It is mainly a polar desert, with annual precipitation of over 200 mm, mainly in the form of snow.
- **Temperatures** – It holds the record for the lowest measured temperature on Earth, −89.2 °C (−128.6 °F).
    - **Near the coast** – The temperature can exceed 10 °C in summer and fall to below −40 °C in winter.
    - **Over the elevated inland** – It can rise to about −30 °C in summer but fall below −80 °C in winter.
- **Fauna** – Antarctica is best known for its charismatic penguins, seals and whales.
- **Flora** – Due to the harsh cold conditions, there are *no trees or shrubs*.
- Vegetation is limited mostly to primitive plants like lichens, mosses, liverworts and algae.
- **Flowering Plants** – Antarctic hair grass (Deschampsia antarctica) & Antarctic pearlwort (Colobanthus quitensis).
- **Population** – Antarctica has no indigenous or permanent human residents.
- However, between 1,000 and 5,000 scientists and support staff live seasonally across various international research stations, such as India's Bharati Station and the American McMurdo Station.

To know about ***Antarctic Greening***, click here

What about the status of tourism to Antarctica?

- **Governance Framework** – Antarctica does not belong to any sovereign nation, but is a space governed by the *1959 Antarctic Treaty*.
- **Antarctic Treaty** – Declares Antarctica as a neutral, demilitarised zone meant for peaceful scientific research.
- **Tourism Guidelines** – In 1991, the *International Association of Antarctica Tour Operators* was set up so that the tourism industry had functional guidelines.
- **Rules & Regulations** – Most major cruise lines and travel operators to Antarctica are now part of this voluntary consortium, which has strict rules about
    - The size of cruise ships,
    - The number of people that can be on any landing site at a time,
    - Biosecurity measures to prevent the spread of invasive species and diseases, and
    - Guidelines for wildlife watching.
- **Growth of Tourism** – Commercial tourism to Antarctica started only in 1966 by an American entrepreneur, who took 57 travellers on a cruise.
- **Visitor Numbers** – Towards the turn of the 21st century, fewer than 8,000 people visited Antarctica each year, while in the 2023-24 season, the continent received 1,25,000 tourists.
- **Future Projection** – And predictions show that if left unchecked, tourist numbers could reach half a million by 2033.
- **Fragile Landscape** – The numbers may look small compared to other destinations, but Antarctica’s ecosystem is extremely fragile, making even modest tourism growth alarming.
- **Key Drivers** – The reasons for this rapid increase are multifold, starting from the collective

    - Post-COVID appetite for travel
    - Social media influences the “bucket lists” promoted by influencers.
- **Last Chance Tourism** – A darker trend where travellers rush to visit Antarctica out of fear it may disappear in the near future due to climate change.
- Driven mainly by wealthy, frequent travellers who want to experience it before it’s gone.
- **Overall Experience** – The combination of untouched nature, wilderness, wildlife, and remoteness makes Antarctica a rare and powerful destination, leaving travellers with lasting impressions.

Why is it important to protect Antarctica?

- **Climate Regulation** – The vast ice sheet regulates the Earth's temperature by reflecting sunlight back into space and driving global ocean currents.
- **Sea-Level Control** – Antarctica holds about 90% of the world's fresh water.
- If this ice were to melt completely, global sea levels would rise by nearly 230 feet, devastating coastal regions worldwide.
- **Scientific Importance** – It is vital for climate research and understanding Earth’s systems, which serves as a natural laboratory for studying global warming, ice dynamics, and biodiversity.
- **Fragile Marine Biodiversity** – The surrounding Southern Ocean supports a unique and complex food web, including krill, penguins, whales, and seals.
- **Peace and Shared Stewardship** – It is governed by the Antarctic Treaty; the continent is preserved as a demilitarised zone dedicated exclusively to peace and science.

What are the impacts to Antarctic due to tourism?

- **Wildlife Disturbance** – The more tourist presence alters penguin reproductive and social behaviour & stress seals, whales, and birds.
- **Habitat & Site Damage** – The foot traffic erodes fragile soils and vegetation; invasive species risk from seeds, microbes, or diseases carried by tourists.
- **Pollution Risks** – The large cruise ships pose danger of oil or fuel spills, waste management challenges, etc.
- **Carbon Footprint** – Travel to Antarctica requires long-haul flights and fuel-intensive ships, which adds significantly to global emissions, worsening climate change.
- **Climate Change Link** – The reduction of sea ice and warmer conditions open new areas for tourism, extending the season; this will increase the human footprint in previously untouched regions.

What needs to be done?

- **Global Cooperation** – Antarctica is protected through scientific research, conservation policies, and strict international agreements with an aim to preserve its fragile ecosystem and scientific value.
- **Sustainable Tourism** – Allowing travellers to witness the continent’s beauty and fragility first-hand helps foster a deeper appreciation for Antarctica and strengthens global support for its protection.

- **Responsible Travel Practices** – Travel with companies that are committed to the principles of conservation and sustainability, while also supporting scientific research in the region.
- There are a handful of these, plying smaller ships with fewer passengers and multiple experts onboard.
- **Focus on Education** – Education is a big part of the planning process - People often imagine it as a luxury cruise, but in reality, it is much more about discovery and learning about the environment.

References

1. The Hindu | At the end of the world in Antarctica
2. National Geography | Antarctica

