

The Antarctic

Antarctica

Antarctica is a continent in the Antarctic region. The Antarctic region is found in the Southern Hemisphere. It is the coldest, driest, highest and windiest continent on Earth. There are no people that live permanently on Antarctica.



The continent of Antarctica is a vast desert landscape with mountain ranges covered in ice. The land is so cold that when snow falls, it doesn't melt. Instead, the snow builds up over time and the weight of it pushes down, squeezing out the air and forming ice sheets. The ice sheets cover almost 99% of Antarctica and reach an average depth of 2450m. Where the ice sheet meets and extends onto the ocean's surface, it becomes known as an ice shelf. Scientists have estimated that the ice is up to 30 million years old. Around 70% of Earth's freshwater is found on Antarctica.

Topography

Antarctica has two main regions: East and West Antarctica. The two regions are divided by the Transantarctic Mountains, which stretch 3540km. Vinson Massif is the highest point, at 4892m above sea level. As the highest continent on Earth, Antarctica's average altitude reaches approximately 2300m above sea level. The bottom of the ice shelves attached to Antarctica can be 2500m below sea level.



Vinson Massif, Transantarctic Mountains

The ice sheet across Antarctica is constantly moving. Huge rivers of ice called glaciers are slowly pulled towards the sea by gravity. As the ice moves, it cracks and breaks on underlying rocks. This causes crevasses to form on the surface.



ice shelf



glacier



crevasses



iceberg

Where the glaciers spill out into the sea, they create ice shelves, which float on the sea while still being attached to the land.

The largest ice shelf is the Ross Ice Shelf, which is approximately the size of France. Icebergs are created when pieces of ice break off an ice shelf. In winter, the sea around Antarctica freezes as sea ice. This causes the continent to almost double in size.



Ross Ice Shelf

Seasons and climate

The Antarctic region has cold winters and cool summers. In the winter season, there is little direct sunlight and the region is in near darkness from April to September. In the summer, there is near continuous direct sunlight from October to March.

Antarctica is incredibly windy and dry. It receives an average of 150mm of precipitation per year, in the form of snow. This means it is classified as a desert. The coldest, driest areas are found inland, where there is high, flat land. Average inland summer temperatures rarely reach above -20°C, while winter temperatures may plummet to -60°C.

Coastal areas have more seasonal variations, with summer temperatures reaching around 0°C. There are also high winds reaching speeds averaging 80km per hour. The cold climate and dome shape of the continent create powerful downhill winds, called katabatic winds, which have been measured at speeds up to 322km per hour.



Vegetation

The landscape of Antarctica has limited vegetation. As the continent is covered in ice and snow for most of the year, few plants have adapted to these harsh conditions. No trees or shrubs are found on Antarctica and there are only two species of flowering plant found in the region. These are Antarctic hair grass and Antarctic pearlwort.



Antarctic hair grass



Antarctic pearlwort

Mosses, liverworts, lichens and plant-like algae are found mainly on the western side of Antarctica, as the climate is milder and receives more precipitation. In the cold waters around Antarctica, the microscopic plant, phytoplankton can survive, receiving its energy from the Sun.



moss



lichen



liverwort



algae

Wildlife

The most common animals found in the Antarctic region are aquatic animals and include penguins, whales, seals, seabirds, fish and some invertebrates, such as krill. The harsh conditions, including the extreme weather and cold climate, mean many animals are unable to survive in the Antarctic all year round.

The only terrestrial animal that lives on Antarctica all year round is a small insect known as the wingless midge.



emperor penguin



orca



Weddell seal



brown skua

Humans

The distance, climate and harsh sea conditions meant Antarctica was not discovered until 1820. Captain James Cook sailed into the Antarctic Circle in 1773 but only discovered islands close to the continent. When the first explorers set foot on the continent, they found no indigenous population on Antarctica.

Throughout the 1800s and early 1900s, seal and whaling stations were established on the continent. Explorers fought their way to reach the South Pole, with the Norwegian Roald Amundsen being the first to reach it in 1911, closely followed by the British explorer Robert Falcon Scott.



Research station in Antarctica

Many countries have tried to claim ownership of Antarctica but the Antarctic Treaty made the continent a protected natural reserve that is dedicated to science and peace. The only people who visit Antarctica are scientific researchers or tourists. Even the scientific researchers only stay on Antarctica for a short time of between three and fifteen months, mainly in summer.



Tourists observing seals on Antarctica

