

GEOLOGY

of Antarctica



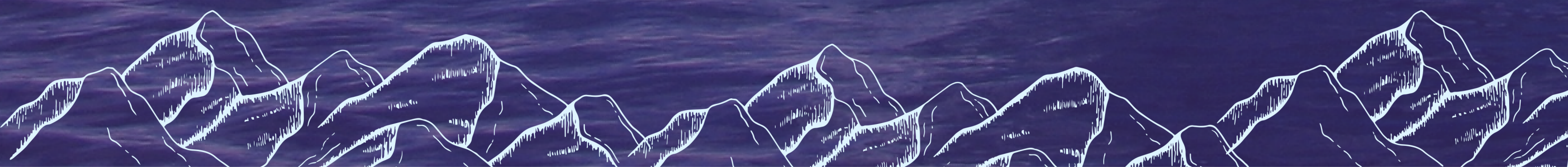
Antarctica is a unique and vast continent, covered in ice and surrounded by the Southern Ocean. It is the 5th largest continent, and the coldest, driest, and windiest place on Earth. Its geography and geology have been shaped by millions of years of ice accumulation, volcanic activity, and tectonic forces.

Antarctica is also home to several mountain ranges, including the Transantarctic Mountains and the Ellsworth Mountains, which were formed by tectonic activity millions of years ago.



Antarctica's geology is also characterized by its active volcanoes, with around 138 known volcanic structures on the continent. The most active volcano on the continent is Mount Erebus, which is located on Ross Island and has been erupting for thousands of years. The continent also has numerous hot springs and geysers, which are a result of geothermal activity.

The landscape of Antarctica is dominated by its ice sheet, which covers an area of around 14 million square kilometers. The ice sheet is up to 4.8 kilometers thick in some places, and holds around 90% of the world's ice.



Climate

- It is the coldest, driest, and windiest continent on Earth.
- Antarctica is considered a desert, with an average annual precipitation of only 166 mm.

Did you know?

Antarctica is the only continent without reptiles and snakes.



Location

Located at 66.5 degrees south latitude The continent is surrounded by the Southern Ocean. Antarctica experiences six months of daylight and six months of darkness each year and is the highest continent, with an average elevation of 2,500 meters.

Landscape

- The continent has several ice shelves, including the Ross Ice Shelf and the Filchner-Ronne Ice Shelf.
- The Gamburtsev Mountains, discovered in 1958, are hidden under the ice sheet.
- Antarctica has numerous hot springs and geysers, a result of geothermal activity.
- Antarctica is home to the world's largest marine reserve, the Ross Sea Marine Protected Area.

- Antarctica has no permanent human population.
- The Antarctic Treaty was signed in 1959 to ensure the continent is used for peaceful purposes and scientific research.
- The first recorded landing on Antarctica was by a Russian expedition in 1820.



COMPREHENSION

Questions



Level 1

- What is the geography of Antarctica?
- What is the dominant feature of the Antarctic landscape?
- What is the average elevation of the continent?
- What is the most active volcano on the continent?

Level 2

- What are some of the mountain ranges found in Antarctica?
- How many volcanic structures are known to exist in Antarctica?
- What is the Antarctic Treaty?
- What is the average annual precipitation in Antarctica?

Level 3

- How have geothermal activities affected Antarctica?
- What is the Gamburtsev Mountains?
- What is the Ross Sea Marine Protected Area?
- What are the implications of the Antarctic ice sheet holding 90% of the world's ice?

Level 4

- How have tectonic forces shaped the geography of Antarctica?
- What are some of the challenges of conducting scientific research in Antarctica?

