

Antarctica-The 'NeverEnding' Story

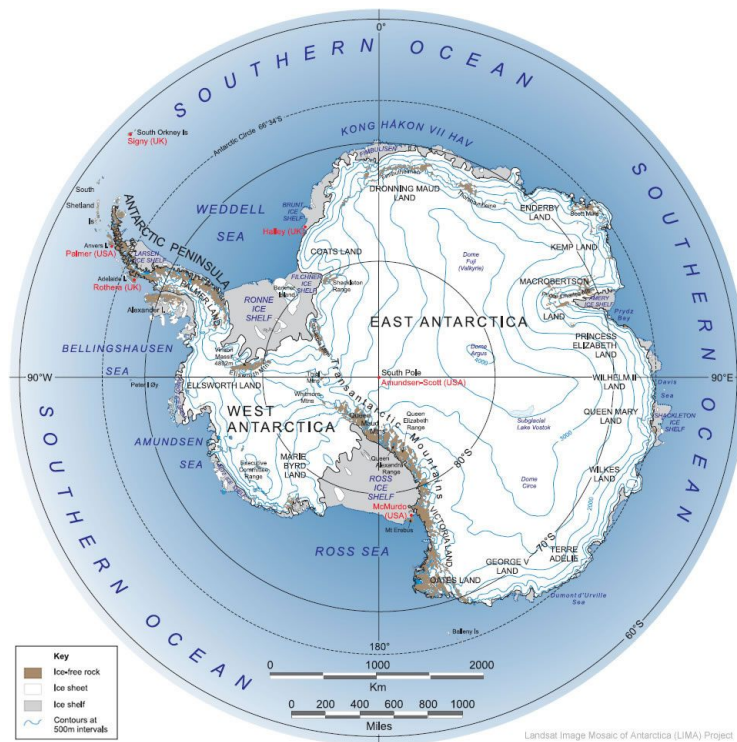
Imagine a place where it is dark for twenty four hours half the year, so cold that you experience life in an actual freezer, relief so high that the highest mountain measures 4892m (and you could walk on the tops of these 'nunataks', as they are buried in snow and ice), so large that it would take you nearly three months to trek to the southernmost point, The South Pole, and one with no permanent residents. Antarctica, often described as the world's 'last great wilderness', is a continent that harbours many treasures and secrets, whether it be both past climatic information and future warnings, vast mineral deposits or a fragile yet spectacular ecosystem. With no permanent residents, and total darkness for six months of the year, alongside temperatures that can vary from -89.2°C to 18.3°C , it is a truly remarkable place. With the future uncertain for Antarctica, it is safe to say that this story will be a never ending one, with generations to come the ones who will witness the results of how we choose to either save and preserve, or exploit it. Antarctica was seen as a mythical land in the far south in the days of its early exploration, and it is safe to say that the future does indeed remain a mystery. Look at the timeline of Antarctica's discovery here https://discoveringantarctica.org.uk/activities/antarctica_timeline/activity.php

- 1) If you hear the word 'Antarctica', what are your first thoughts? Perhaps write down three words, or a sentence, and use the images to help you:



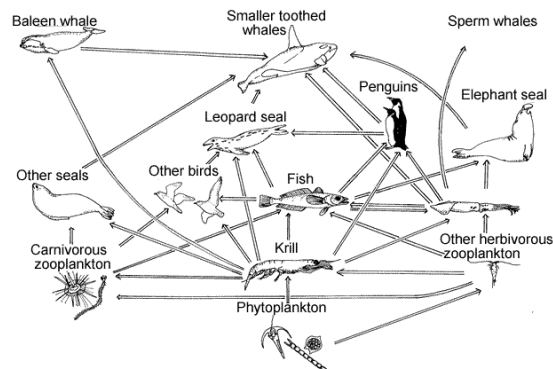
Photos-www.livescience.com, www.npr.org, www.cntraveller.com

Antarctica is located mainly south of the Antarctic Circle, with the exception of the Antarctic Peninsula, that extends northwards from West Antarctica. Don't forget, a *peninsula* is a landform that is almost surrounded by water or projecting out into a body of water, whilst still being connected to the mainland with which it extends. There are many ice shelves that fringe around the edges, the two largest being the Ross Ice Shelf and the Ronne Ice Shelf, which are both larger than the British Isles! Antarctica is surrounded by the Southern Ocean extending from the coast to approximately 60 degrees latitude, a bit like the shell of an egg protecting the yolk inside. Here, we find the Antarctic Convergence Zone, whereby the cold



source-www.geology.com

Antarctic waters meet the warmer sub-Antarctic waters. The colder waters sink, therefore a combination of mixing and upwelling occurs, and the Antarctic Circumpolar Current blocks warmer water travelling any further south. This is a very special place for something very special in the Antarctic food web, phytoplankton, that in turn provides food for the star of the show, krill.



source-www.coolantarctica.com

Krill are pretty awesome, imagine if everyone you know depended on YOU, and you alone, to survive and thrive. They are the building blocks of the ecosystem, and any loss of krill will have knock on effects for the whole ecosystem, a little like dominoes!

Antarctica was once pristine and untouched, but voyages and discoveries from the eighteenth century onwards acted as a catalyst for exploitation of this fragile environment. These include culling of seals, fishing and whaling. The Antarctic Treaty was signed in Washington in 1959 by twelve countries (Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, United Kingdom, United States and USSR). It then entered into force in 1961, and has since been acceded to by many other nations. The total number of Parties to the Treaty is now 54. Other threats include climate change, tourism, ocean acidification, and potential resource exploitation and mining.

2) Match up the key terms to the definitions:

Antarctica	The geographical area over which legal authority can be administered.
Global Commons	These are the main threats to Antarctica today.
Tragedy of the Commons	The Scientific Committee on Antarctic Research is an interdisciplinary body of the International Science Council. SCAR coordinates international scientific research efforts in Antarctica, including the Southern Ocean.
NGO's	The Convention on the Conservation of Antarctic Marine Living Resources, also known as the Commission for the Conservation of Antarctic Marine Living Resources, and CCAMLR, is part of the Antarctic Treaty System.
Antarctic Treaty	Founded in 1978, the Antarctic and Southern Ocean Coalition (ASOC) is the only non-governmental organisation working full time to preserve Antarctica and the surrounding Southern Ocean.
Fishing/whaling, tourism, climate change and mining are:	Parts of the planet that fall outside national jurisdictions and to which all nations have access (The High Seas, Antarctica, Outer Space and the Atmosphere-Cyber Space the contested 5th)
Geopolitics	The Antarctic Treaty and related agreements, collectively known as the Antarctic Treaty System, regulate international relations with respect to Antarctica, Earth's only continent without a native human population. It came into force on 23 June 1961 after ratification by the twelve countries then active in Antarctic science. Ongoing geopolitics might disable the Antarctic Treaty System (ATS) after it expires in 2048, or even before that date.
Jurisdiction	Non-governmental organisations.
International Whaling Commission	A leading, independent campaigning organisation that uses nonviolent direct action and creative communication to expose global environmental problems and promote solutions that are essential to a green and peaceful future.
CCAMLR	This is the global intergovernmental body charged with the conservation of whales and the management of whaling.
ASOC	This refers to a situation in which individuals with access to a shared resource (also called a common) act in their own interest and, in doing so, ultimately deplete the resource.
SCAR	Politics, especially international relations, influenced by geographical factors.
Greenpeace	This is the southernmost continent, and site of the South Pole, an uninhabited (except for tourism and scientific research in the summer) ice-covered landmass, also a cold desert.

3) Write a short paragraph using at least six of the key words above:

(Read here for more information on the treaty <https://www.ats.aq/e/antarctic treaty.html>)

It is clear that Antarctica is a fragile environment, with a very uncertain future. Will we continue to preserve this wilderness, or will it open up as a new resource frontier as our human greed prevails over human need? What will become of the fragile ecosystem? Of tourism? And of the surrounding ocean as sea levels continue to rise? We have spent several weeks studying Antarctica, the physical environment, the threats it faces, the organisations and treaties trying to preserve it, but what do YOU think? What will the 'Antarctica of the Future' look like? Complete the sentences in the box below:

In the future, I think Antarctica's physical environment will look like....

In the future, I think climate change will.....

In the future, tourism will become a large/small threat to Antarctica because.....

We will/will not mine for resources in Antarctica because.....

