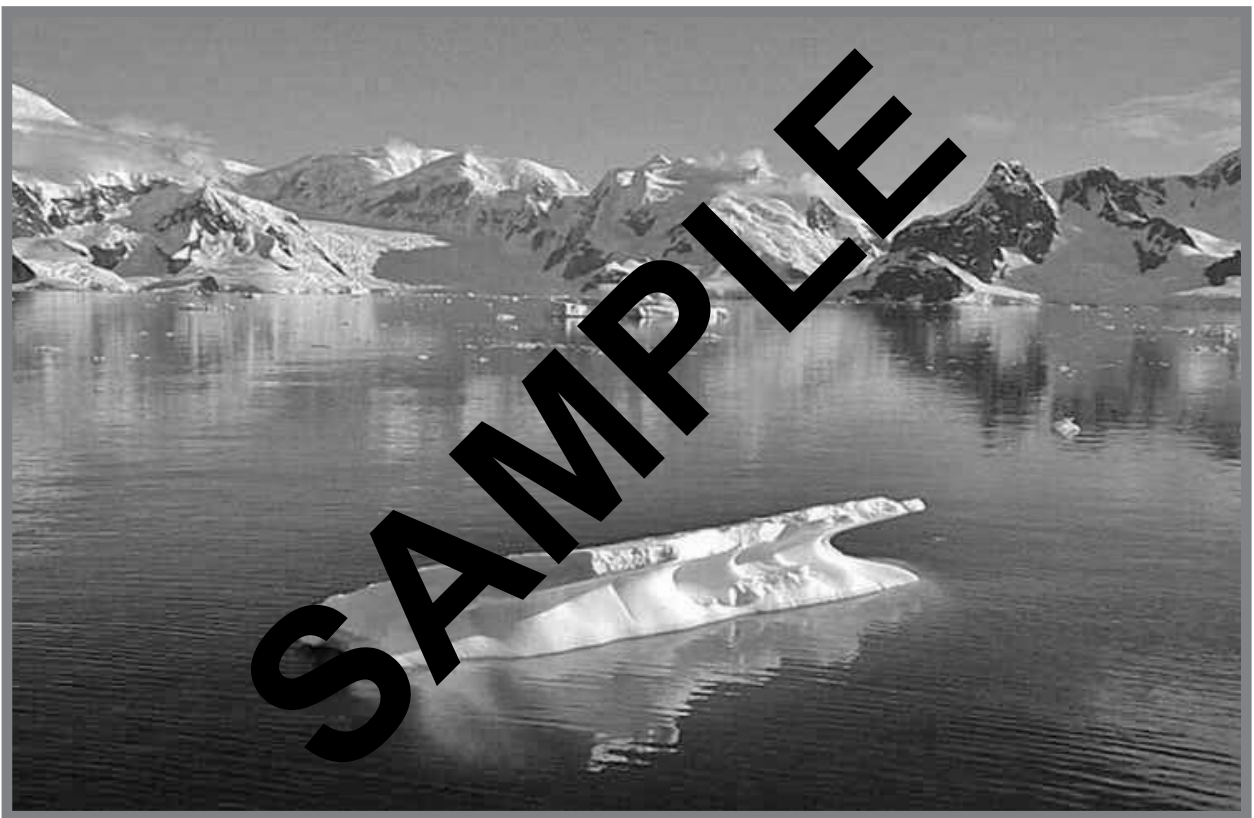


# Amazing Antarctica

by Jane Bourke



© Skip Novak, Pelagic Expeditions.

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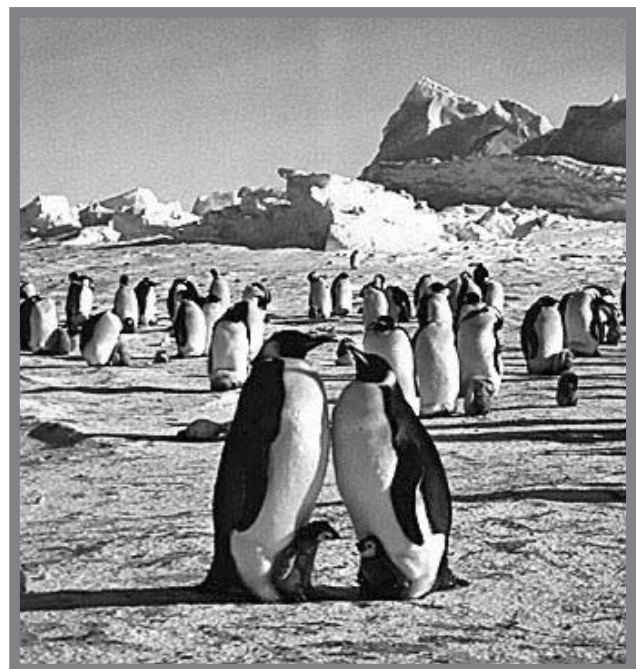
# The Cold Hard Facts of Antarctica



- ◆ Temperatures in Antarctica rarely rise above 0 degrees Celsius.
- ◆ Ice and snow covers 98% of the Antarctic continent.
- ◆ A thick layer of ice and snow buries most of the Antarctic continent. This is known as the icecap. This layer averages a thickness of about 2,200 metres. That's over two kilometres!
- ◆ The ice is four kilometres thick at the South Pole.
- ◆ The icecap makes up approximately 70% of the Earth's fresh water.
- ◆ The icecap covers 13.72 million square kilometres and contains 90% of the world's ice.
- ◆ If this icecap melted, the ocean levels would rise and all the low-lying areas around the world would be flooded.
- ◆ Some types of algae are able to grow on snow, making the snow appear pink or green.
- ◆ Antarctica covers 14 million square kilometres of the Earth's surface.
- ◆ The average elevation of Antarctica is 2,300 metres above sea level.
- ◆ Winter in Antarctica involves six weeks of complete darkness.
- ◆ Summer in Antarctica consists of 24 hours of continuous daylight.
- ◆ Over 7,000 tourists have visited Antarctica since 1990.

The lowest EVER recorded temperature in the world was in the Antarctic continent at Vostok station on July 21, 1983.

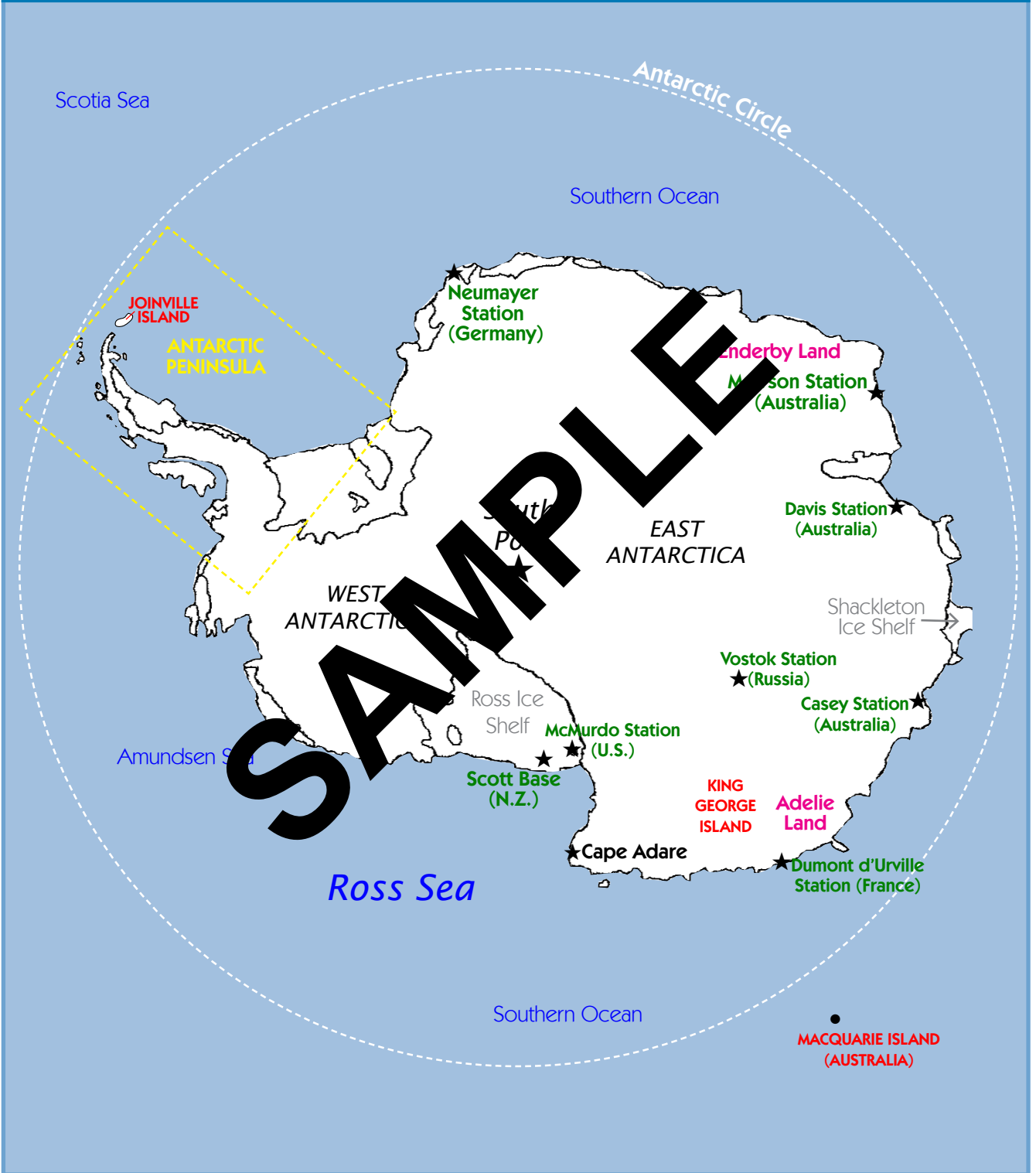
It was -89.2 degrees Celsius on that day.



© Alfred Wegener Institute for Polar and Marine Research

# Map of Antarctica

## Antarctica Region



# Playful Penguins

Most people associate Antarctica with penguins. These unique flightless birds that waddle around in an awkward fashion, are the subject of many wildlife documentaries and are found in abundance in the cold icy environment of the Antarctic waters. Penguins are amazing animals that have gradually evolved over many millions of years, allowing their wings to develop into flippers. They are excellent swimmers and move much more easily in water than they do on land.

Penguins are only found in the southern part of the world. As well as in Antarctica, colonies – known as rookeries – exist in parts of Australia and New Zealand. The Galapagos penguin is to be found in regions surrounding the equator, which of course has a completely different climate to that of Antarctica.

Walking is not the preferred method of getting around. Penguins spend most of their time in the water. When they do walk, it is rather awkward and clumsy and many penguins prefer to move along the ice by “tobogganing”, which is where they slide along the ice belly first. A sight to behold which certainly looks like a lot of fun. Using their flippers to push them, penguins can easily travel distances of up to 100 kilometres in a day.



*Emperor Penguins on the ice, © Trudie Waltman.*

## Emperor Penguins

These are the largest of the penguin species, reaching sizes of up to nearly one and a half metres tall. It is estimated that there are 350, 000 Emperor penguins living in Antarctica. They spend nearly three quarters of their life in the freezing cold water. Brrrrrrr!



© Patrick Boss, Australian Antarctic Division.

## Did You Know?

There are 17 penguin species.

How many have you heard of?

- Adelie
- African
- Chinstrap
- Emperor
- Erect crested
- Fairy (little blue)
- Fjordland crested
- Galapagos
- Gentoo
- Humboldt
- King
- Macaroni
- Magellanic
- Rockhopper
- Royal
- Snares Island
- Yellow eyed





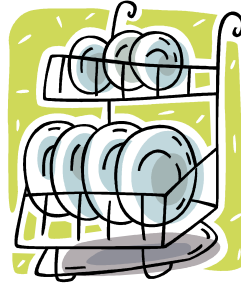
# Antarctic Land Resources

## What do geologists know about Antarctica?

Geology is the study of the earth and how it was formed. Geologists are primarily concerned with the mineral resources that are contained within the earth. Using the knowledge they have of regions such as South America, South Africa, Australia and New Zealand, scientists and geologists have formed ideas about the type of minerals that might be found underneath all the ice in Antarctica.

About 225 million years ago, the seven continents of the Earth were one land mass called Pangaea. It is believed that because of the movement of the tectonic plates, this one land mass drifted apart to become the seven continents.

## Plate Tectonics?



This is the theory that the Earth's outer layer is made up of a number of plates, which have slowly moved and sometimes collided throughout the

Earth's history. This theory explains why the Earth has mountain ranges and volcanoes (plates have collided forcing the land upward over many millions of years) and it also explains why similar animals live on continents that are thousands of miles apart.

The diagrams below show the splitting of Pangaea.



You should be able to recognise the continents. The super continent of **Pangaea** began to split about 200 million years ago, forming two subcontinents called **Gondwanaland** and **Laurasia**.

Oceans filled the areas between these subcontinents. The regions of South America, South Africa, Australia, New Zealand and Antarctica all made up the subcontinent of Gondwanaland, and geologists figure that since these land masses were formed at the same time and with the same processes, they are probably quite similar in a number of ways.



## Warnings from the Ice:

► [www.pbs.org/wgbh/nova/warnings/](http://www.pbs.org/wgbh/nova/warnings/)