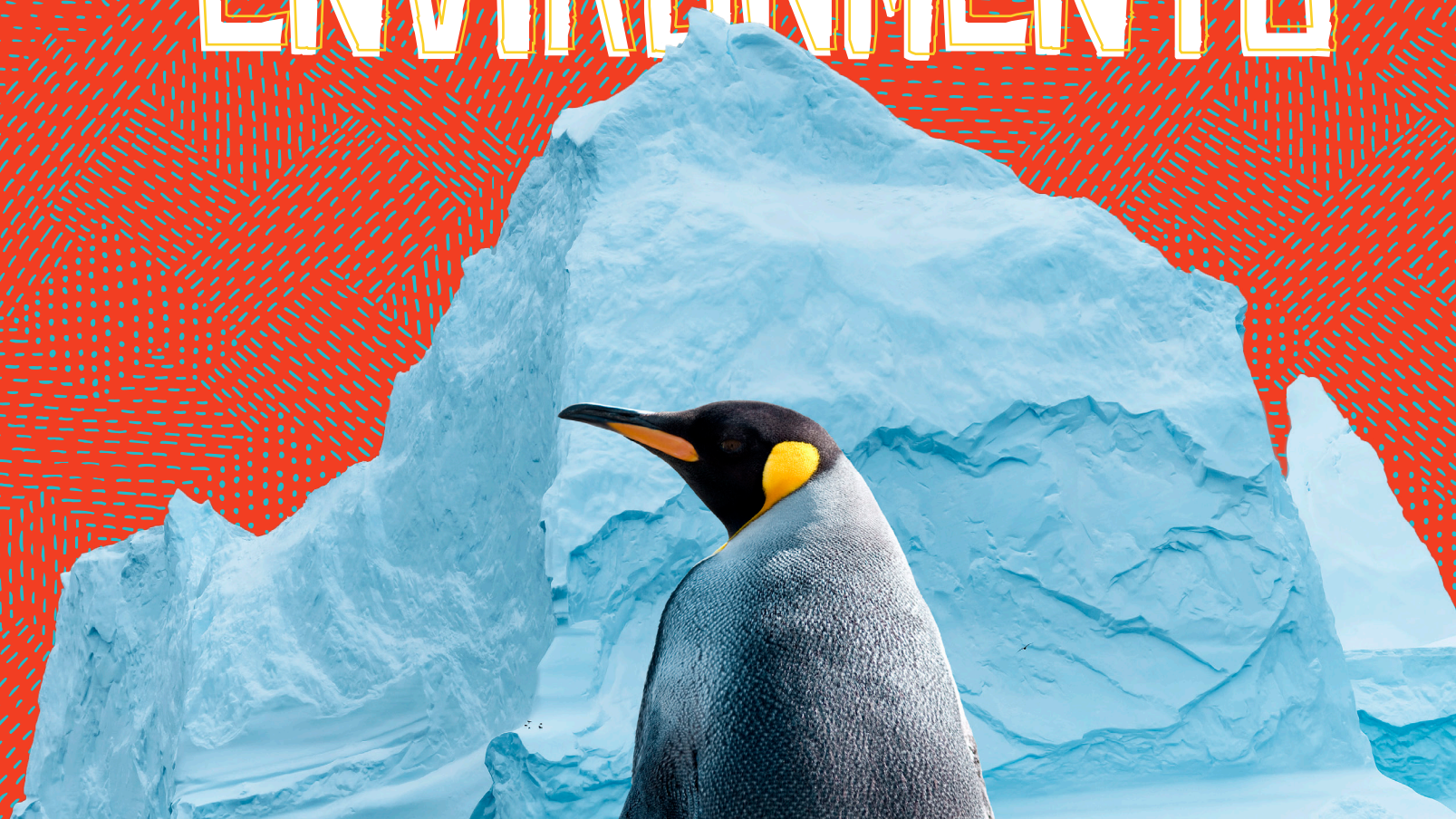


EXTREME ENVIRONMENTS

COLD, HEAT, AND LIMITED WATER are just some of the challenges awaiting people who explore the earth's deserts and poles. But dazzling ice cliffs and golden sand dunes await those brave enough to visit these unique, barren regions.

God's original creation was perfect, full of fruit trees and clear rivers (Genesis 2:8–10). But when Adam and Eve rebelled against God and his command, they brought sin and suffering into the world (Romans 8:19–22).

Eventually, the people on earth became so wicked that God punished them with a global flood (Genesis 7:11–12), but he saved Noah's family and the animals on the ark. The flood reshaped the earth's surface and altered its climate, leading to the formation of many of the extreme landscapes we see today.



SHIPWRECKS AND WHALE BONES ARE SCATTERED IN THE DESERT SANDS ALONG AFRICA'S SKELETON COAST.



High dunes from the
Namib Desert

A desert is any place
that gets less than
10 inches (25 cm) of
rain or snow each year.

The dead trees in the Namib Desert
have stood for about 900 years,
preserved by southern Africa's dry air.

Deadvlei, Namibia

The sand dunes in the
Namib Desert can reach
up to 1,300 feet (396 m) tall.

**THAT'S TALLER THAN THE
EMPIRE STATE
BUILDING!**

A large area of sand dunes is called an erg.

EVERY YEAR, WINDS BLOW OVER 100 MILLION TONS OF DUST AWAY FROM THE SAHARA DESERT.

That much dust is about the same weight as 1,000 cargo ships.

The dust travels a couple of miles above the surface of the earth before settling in the ocean and on other continents.

SAND DUNE AVALANCHES ARE CALLED "BOOMING SANDS" BECAUSE OF THE LOUD NOISE THEY MAKE.

THE SAHARA DESERT IS MORE THAN 16 TIMES THE SIZE OF FRANCE.

THE LARGEST
HOT DESERT ON
EARTH IS THE
SAHARA DESERT
IN AFRICA.

Tenoumer Crater,
Mauritania

SCIENTISTS WONDER IF THE PERFECT CIRCLE IN
THE MIDDLE OF THE SAHARA DESERT CAME FROM A
METEORITE OR A VOLCANO.

This crater is about a mile (2 km) wide.

A DIFFERENT WORLD

Before the flood, Noah and his family weren't able to visit the Sahara Desert, the Amazon River, or the Rocky Mountains. The familiar landscapes we have today simply didn't exist!

While the people of Noah's time had their own familiar rivers and mountains (Genesis 2:10; Psalm 104:6), the flood ripped apart and wiped away all traces of them (2 Peter 3:5–6).

A year after the flood began, Noah and his family stepped off the ark into a completely different-looking world—a world that had been carved and shaped by water.

THE GOBI DESERT IN ASIA HAS HOT SUMMERS AND BITTERLY COLD WINTERS.

Poplar trees in the
Gobi Desert turning
orange and yellow
in the autumn.

China has planted over
88 billion trees, called
the "Great Green Wall,"
to stop the Gobi Desert
from spreading.





**YOU'D PROBABLY SAY
"BRR!" TO THE TUNDRA.**

This cold, flat land with no trees is found in the Arctic and alpine regions near tops of mountains.

Although frozen soil called permafrost sits beneath the tundra, 400 kinds of flowers can still burst into bloom during the few weeks of summer.



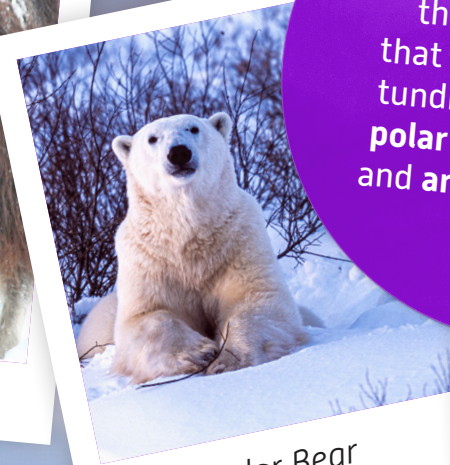
Tundra flowers blooming



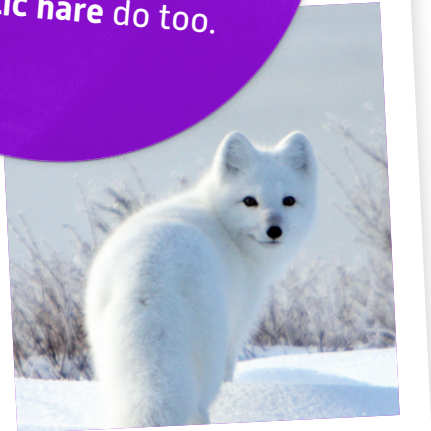
Reindeer herds aren't the only animals that live in the Arctic tundra. The **musk ox**, **polar bear**, **arctic fox**, and **arctic hare** do too.



Musk Ox



Polar Bear



Arctic Fox

A herd of wild reindeer



Arctic Hare



POLLEN
FROM A
PALM TREE

WAS FOUND
IN THE OCEAN
NEAR THE
NORTH POLE.



Small icebergs called
growlers are the size
of a grand piano.

LARGE ICEBERGS
CALLED **BERGY BITS**
ARE AS BIG AS
A CABIN.



ICEBERGS CAN BE AS LARGE
AS THE STATE OF RHODE ISLAND!



THE
ARCTIC

VS

ANTARCTICA

Whales spouting near Greenland

The Arctic

- Made primarily of ice covering the Arctic Ocean
- North Pole located here
- Lowest temperature -58°F [-50°C]
- Highest temperature 55°F [13°C]
- Home of polar bears
- 4 million people permanently live here



ONE ICE AGE

After the flood, plants must have grown and thrived all over the world, including Antarctica. Then, as the earth settled because the tectonic plate movements slowed, the continuing volcanic eruptions filled the sky with ash that blocked sunlight and cooled the land.

The planet entered a unique time called the ice age. An ice age can't just happen randomly. Special ingredients such as very warm oceans are needed, and those ingredients could only come from a worldwide flood. So we know there was only one ice age because there was only one worldwide flood.

During the ice age, the land at the top and bottom of the globe was covered in huge ice sheets. In fact, a lot of the snow at the North and South Poles is left over from that unique time in earth's history.

Antarctica

- The coldest, driest, and windiest continent on earth
- South Pole located here
- Lowest temperature -117°F [-83°C]
- Highest temperature 10°F [-12°C], never above freezing
- Home of penguins
- 0 people permanently live here (scientists and tourists only visit)

ANTARCTICA REIGNS AS THE WORLD'S LARGEST DESERT, BUT IT'S A COLD ONE.

The whole continent receives only about 6 inches (150 mm) of precipitation a year, mostly as snow.

Antarctica doesn't experience

many earthquakes, but it has

hundreds of thousands of icequakes.

People usually don't feel icequakes,

but they hear loud popping noises.

Before the ice age, lush rainforests covered Antarctica.

Argentine Esperanza
Station in the Antarctic

No country owns
Antarctica, but
7 different countries
claim parts of it.