

A polar bear is standing on a small, isolated piece of ice in a dark, choppy sea. The bear is looking towards the left. The sky is overcast and grey. The water is dark and turbulent. The ice is white and jagged.

Climate Change

How this issue affects animals, and what we can do to mitigate it.

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July 2021

WHAT IS CLIMATE CHANGE?

A shift in a location's typical weather is referred to as *climate change*. This might be due to a shift in the amount of rain that a location receives on a yearly basis. It might also be a shift in a location's normal temperature over the course of a month or season.

Climate change is also a term that refers to changes in the Earth's climate. This might occur because of a shift in the Earth's normal temperature. It might also be a shift in the regions where rain and snow fall on Earth. The climate of the Earth is always changing. The Earth's climate has been warmer in the past than it is currently. There have also been colder days in the past. Thousands or millions of years can pass during these periods. Earth scientists see that the planet's climate is warming. In the previous 100 years, the Earth's temperature has risen by roughly one degree Fahrenheit. This might not appear to be a significant amount.

WHAT IS GLOBAL WARMING?

Human activity, largely the burning of fossil fuels that pump carbon dioxide (CO₂), methane, and other greenhouse gases into the atmosphere, is causing *global warming*, which is the progressive heating of the Earth's surface, seas, and atmosphere. Some consequences of global warming have already begun to manifest themselves. Some snow and ice have melted as the Earth's temperature has warmed. Oceans have also risen as a result of global warming. Global warming has also altered certain plants' growth.

HOW DOES GLOBAL WARMING AFFECT ANIMALS?

Plants and animals that require frigid environments, such as those living on mountaintops or in the Arctic, could find themselves without a viable habitat as the Earth warms. If the Earth continues to warm, one-fourth of all plants and animals on the planet might become extinct in the next 100 years. Every plant and animal in an ecosystem serves a purpose (for example, as a food source, a predator, or a pollinator), so the loss of one species can affect the outcome for many others.

The following are examples of vulnerable and endangered animals.

Polar Bears:

- **VULNERABILITY** Habitat specialists that rely almost entirely on the sea-ice environment.
- **RESILIENCE** Opportunistic eaters; they prefer seals, but will feed on whale carcasses and even hunt walrus and beluga. Will prey on land animals when necessary.
- **IUCN RED LIST STATUS** (IUCN: International Union for Conservation of Nature) Vulnerable.

Snow Leopards:

- **VULNERABILITY** Susceptible to indirect impacts of climate change, such as habitat encroachment by humans as a result of changing conditions in the region.
- **RESILIENCE** High mobility across their large, mountainous range—not bound to a narrow range of altitude or a small region.
- **IUCN RED LIST STATUS** Endangered.

Giant Pandas:

- **VULNERABILITY** Feed almost exclusively on bamboo plants.
- **RESILIENCE** Can tolerate a fairly wide range of temperatures.
- **IUCN RED LIST STATUS** Endangered.

Tigers:

- **VULNERABILITY** Very small population size—thought to be as few as 3,200 individuals.
- **RESILIENCE** Live across a vast range of habitats, from coastal Bangladesh to the frigid Russian Far East.
- **IUCN RED LIST STATUS** Endangered.

Monarch Butterflies:

- **VULNERABILITY** Heavily dependent on environmental cues for reproduction, migration, and hibernation.
- **RESILIENCE** Have a short life span and fast reproductive rate, which could increase their ability to adapt to changes in the environment.
- **IUCN RED LIST STATUS** While monarchs themselves aren't considered an endangered species, IUCN recognizes their migration as an endangered phenomenon.

Green Sea Turtles:

- **VULNERABILITY** Very sensitive to temperature changes at all life stages—for example, the sex of baby turtles is determined by the temperature of the sand the eggs are laid in.
- **RESILIENCE** High amounts of genetic diversity within the species, which could increase their ability to adapt to changing environmental conditions.
- **IUCN RED LIST STATUS** Endangered.

African Elephants:

- **VULNERABILITY** Need 40–80 gallons of fresh water a day, just for drinking.
- **RESILIENCE** Live in an incredible range of habitats, from open savannas to dense tropical forests.
- **IUCN RED LIST STATUS** Vulnerable.

Mountain Gorillas:

- **VULNERABILITY** Confined to a very small range surrounded by human settlements, so they can't move elsewhere.
- **RESILIENCE** Not picky eaters; feed on everything from flowers to tree bark.
- **IUCN RED LIST STATUS** Endangered.

Asian Elephants:

- **VULNERABILITY** Prefer to eat native grasses and other local plants that invasive species are beating out.
- **RESILIENCE** Live in a wide variety of habitats and across a broad range of altitudes.
- **IUCN RED LIST STATUS** Endangered.

Cheetahs:

- **VULNERABILITY** Very low genetic diversity within the species could hinder ability to adapt to changing environmental conditions.
- **RESILIENCE** Incredibly low fresh water requirements—they need to drink only every 3–4 days.
- **IUCN RED LIST STATUS** Vulnerable.

CONCLUSION – HOW WE CAN MAKE A CHANGE

Scientists believe that we can take simple steps to reduce the rate of climate change. For example, you can contribute by conserving electricity and water. When you leave a room, turn off the lights and the television. When brushing your teeth, turn off the water. Planting trees is another way to assist because as trees grow, they help stop climate change by removing carbon dioxide from the air, storing carbon in the trees and soil, and releasing oxygen into the atmosphere.

There are still more things we can do to minimize the damage of climate change. Reducing your carbon footprint is one such action. Your carbon footprint is the amount of carbon dioxide and other carbon compounds emitted by someone. Here are some steps you can take to reduce the amount of carbon you emit into the environment:

1. Insulate your home – Uses less energy for heating.
2. Use less water – It takes energy and resources to process and deliver water to our homes, so using less will reduce your footprint.
3. Change your diet – Producing meat and dairy uses a lot of land, water, and energy. If you eat fewer of these foods, you can reduce your carbon footprint.
4. Turn off the lights – This helps reduce power wastage.
5. Reduce, Reuse, Recycle – If you recycle waste products, you are reducing your carbon footprint.

Learning about the Earth is the best way to contribute. The more you know about the Earth, the better equipped you are to assist in the resolution of climate issues.

REFERENCES

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