

Our Planet Needs Help: Understanding Climate Change

Our planet is getting warmer every year. Scientists study weather patterns closely and see clear changes over time. Earth's **atmosphere** holds a mix of gases that **trap** heat from the sun, like a warm blanket around the planet. This natural process keeps our world warm enough for plants, animals, and people to live. However, when factories, cars, and power plants burn fuel, they **release** extra gases into the air. These gases build up and make the natural blanket thicker. More heat stays near the **surface**, so **average** temperatures slowly increase. Scientists call this global problem climate change, and it touches every country on Earth.

Many of the gases that warm our planet come from **fossil fuels** like coal, oil, and gas. People burn these fuels to make electricity, run cars, and heat homes. When fossil fuels burn, they send **carbon dioxide** into the air. This gas is one of the main causes of climate change. Cutting down forests adds to the problem too, because trees normally **absorb** carbon dioxide and store it. Without enough trees, more of this gas stays in the atmosphere. Every year, people around the world produce billions of tons of carbon dioxide, and **reducing** this amount is one of the biggest **challenges** facing humanity today.

Warmer temperatures are already changing our planet in visible ways. In the Arctic and Antarctica, huge **glaciers** are melting faster than before. A glacier is a giant sheet of ice that has existed for thousands of years. As glaciers melt, the extra water flows into the ocean, and sea levels slowly **rise**. This puts **coastal** cities and small islands at risk of **flooding**. Rising seas also make it harder for people to get fresh drinking water in some areas, since salty ocean water can mix with it. Melting ice affects wildlife too. Polar bears, for example, need sea ice to hunt for food, so a shrinking **habitat** makes survival difficult for them.

Climate change also brings more **extreme** weather to many parts of the world. Some **regions** now face longer **droughts**, when little or no rain falls for months. Farmers lose crops when the soil becomes too dry to grow food. In other places, storms have grown stronger and more **frequent**, bringing heavy rain and dangerous flooding. Heat waves, periods of unusually hot weather, are becoming more common too, and they can be dangerous for older people and young children. Scientists connect these events to a warmer atmosphere, which holds more energy and moisture. As the planet continues to warm, experts warn that extreme weather will likely increase in the coming **decades**.

The good news is that people are finding solutions to slow climate change. Many countries now use **renewable** energy, such as solar and wind power, instead of fossil fuels. Solar panels turn sunlight into electricity, while wind **turbines** use moving air to **generate** power. These clean energy sources produce little or no carbon dioxide. Governments and companies are also **investing** in better technology, like electric cars and energy-efficient buildings. Small actions matter too. Turning off lights, walking instead of driving, and eating less meat can all shrink a person's carbon **footprint**. Every action, big or small, adds up when millions of people join together.

Understanding climate change is the first step toward protecting our planet. Scientists, engineers, and everyday **citizens** all play a role in finding answers. Young people especially are raising their voices, asking leaders to act quickly and **responsibly**. Schools around the world now teach students about the **environment**, so future generations can make smarter choices. Cities are also planting trees, cleaning rivers, and building parks to help nature **recover**. No single person can solve climate change alone, but together, communities can create real change. The choices we make today will shape the planet that future generations **inherit**.

Beyond the Headlines

Here is a surprising fact about our climate. In 1816, a giant volcano called Mount Tambora **erupted** in Indonesia. It threw so much **ash** and dust into the sky that sunlight could not reach the ground normally. Temperatures **dropped** around the world, and some places even saw snow in summer! People later called it "the year without a summer." Crops failed, and food became **scarce** in many countries. This event shows that our climate can change quickly, even without help from humans. Today, however, scientists agree that human activity, not volcanoes, is the main **force** driving climate change around the globe.

Vocabulary

Paragraph 1

atmosphere (n.)	(n.) the layer of air around the Earth. <i>"The atmosphere protects us from the sun's strongest rays."</i>
trap (v.)	(v.) to catch and hold something so it cannot escape. <i>"The greenhouse gases trap heat close to the ground."</i>
release (v.)	(v.) to let something go free or send it out. <i>"Burning fuel can release harmful gases into the air."</i>
surface (n.)	(n.) the top or outside part of something. <i>"Waves move across the surface of the ocean."</i>
average (adj.)	(adj.) typical or usual, based on a general pattern. <i>"The average temperature in July is quite high."</i>

Paragraph 2

fossil fuels (n. phrase)	(n. phrase) natural fuels like coal, oil, and gas, formed underground over millions of years. <i>"Cars often run on fossil fuels such as gasoline."</i>
carbon dioxide (n. phrase)	(n. phrase) a gas produced when fuel burns, and also when people and animals breathe out. <i>"Plants use carbon dioxide to grow."</i>
absorb (v.)	(v.) to take something in and hold it. <i>"A sponge can absorb a lot of water."</i>
reducing (v.)	(v.) making something smaller or less in amount. <i>"Everyone can help by reducing plastic waste."</i>
challenges (n.)	(n.) difficult problems that require effort to solve. <i>"Climate change brings many challenges for future generations."</i>

Paragraph 3

glaciers (n.)	(n.) large, slow-moving masses of ice found in cold regions. <i>"Glaciers store much of the world's fresh water."</i>
rise (v.)	(v.) to move upward or increase in level. <i>"Prices tend to rise during the holiday season."</i>
coastal (adj.)	(adj.) located near the coast or seashore. <i>"Many coastal towns depend on fishing and tourism."</i>
flooding (n.)	(n.) an overflow of water onto land that is usually dry. <i>"Heavy rain caused serious flooding in the valley."</i>
habitat (n.)	(n.) the natural home of a plant or animal. <i>"Rainforests provide a rich habitat for many species."</i>

Paragraph 4

extreme (adj.)	(adj.) very great in degree; far beyond what is normal. <i>"The desert has extreme temperatures between day and night."</i>
regions (n.)	(n.) large areas of land with shared features. <i>"Some regions receive much more rainfall than others."</i>

droughts (n.)	(n.) long periods with little or no rain. <i>“Droughts can make it hard for farmers to grow crops.”</i>
frequent (adj.)	(adj.) happening often. <i>“This area now sees frequent storms.”</i>
decades (n.)	(n.) periods of ten years. <i>“Scientists have studied climate change for several decades.”</i>

Paragraph 5

renewable (adj.)	(adj.) able to be used again and again without running out. <i>“Solar power is a popular renewable energy source.”</i>
turbines (n.)	(n.) machines with blades that turn to produce power. <i>“Wind turbines spin to generate electricity.”</i>
generate (v.)	(v.) to produce or create something, especially energy. <i>“Solar panels generate electricity from sunlight.”</i>
investing (v.)	(v.) putting money into something to gain a future benefit. <i>“Many companies are investing in cleaner technology.”</i>
footprint (n.)	(n.) the mark or effect that something leaves behind, such as on the environment. <i>“Riding a bike can lower your carbon footprint.”</i>

Paragraph 6

citizens (n.)	(n.) people who belong to a particular country or community. <i>“Citizens can vote to choose their leaders.”</i>
responsibly (adv.)	(adv.) in a careful and sensible way. <i>“It is important to use natural resources responsibly.”</i>
environment (n.)	(n.) the natural world, including air, water, land, plants, and animals. <i>“Recycling helps protect the environment.”</i>
recover (v.)	(v.) to return to a normal or healthy condition. <i>“Forests can recover after a fire if given enough time.”</i>
inherit (v.)	(v.) to receive something, such as property or a situation, from someone before you. <i>“Children will inherit the world we leave behind.”</i>

Beyond the Headlines

erupted (v.)	(v.) burst out suddenly, as a volcano does. <i>“The volcano erupted and covered the town in ash.”</i>
ash (n.)	(n.) the soft, gray powder left after something burns. <i>“Thick ash from the fire covered the streets.”</i>
dropped (v.)	(v.) fell or became lower. <i>“The temperature dropped quickly after sunset.”</i>
scarce (adj.)	(adj.) not enough; hard to find. <i>“Clean water became scarce during the long dry season.”</i>
force (n.)	(n.) a strong power or influence that causes something to happen. <i>“Gravity is a force that pulls objects toward Earth.”</i>

Language Review

Exercise A — True or False

Read each statement. Write True or False on the line.

1. Earth's atmosphere traps heat from the sun. _____
2. Burning fossil fuels does not add carbon dioxide to the air. _____
3. Glaciers are melting faster than before. _____
4. Rising sea levels have no effect on coastal cities. _____
5. A drought happens when there is too much rain. _____
6. Solar and wind power are examples of renewable energy. _____
7. Only governments can help solve climate change, not regular people. _____
8. In 1816, a volcanic eruption caused unusually cold temperatures around the world.

Exercise B — Matching

Match each word in Column A with its meaning in Column B. Write the correct letter.

Column A	Column B
1. atmosphere	a. burst out suddenly, like a volcano
2. fossil fuels	b. the layer of air surrounding the Earth
3. glaciers	c. able to be used again without running out
4. droughts	d. the mark something leaves on the environment
5. renewable	e. long periods with little or no rain
6. footprint	f. natural fuels formed from ancient plants and animals, like coal and oil
7. environment	g. huge, slow-moving sheets of ice
8. erupted	h. the natural world around us

Exercise C — Multiple Choice

Choose the best answer (a, b, c, or d) for each question.

1. What does Earth's atmosphere do to heat from the sun?
 - a. It traps heat close to the planet
 - b. It blocks all heat completely
 - c. It sends heat directly to space
 - d. It has no effect on heat

2. Which of these produces carbon dioxide when it burns?
 - a. Solar panels
 - b. Fossil fuels
 - c. Wind turbines
 - d. Ocean water
3. What happens to glaciers as temperatures rise?
 - a. They grow larger
 - b. They turn into rock
 - c. They melt faster
 - d. They stay the same
4. What is one effect of rising sea levels mentioned in the article?
 - a. Cooler ocean temperatures
 - b. Less rainfall everywhere
 - c. Fewer predators for polar bears
 - d. More flooding in coastal cities
5. What is a drought?
 - a. A long period with little or no rain
 - b. A sudden heavy storm
 - c. A type of renewable energy
 - d. A rise in sea level
6. Which of these is a renewable energy source, according to the article?
 - a. Coal
 - b. Wind
 - c. Oil
 - d. Natural gas
7. According to the article, what can individuals do to help the planet?
 - a. Wait for governments to act alone
 - b. Use more fossil fuels
 - c. Walk instead of driving and eat less meat
 - d. Ignore small daily choices
8. What caused the “year without a summer” in 1816?
 - a. Rising sea levels
 - b. A drought in Europe
 - c. Too many fossil fuels
 - d. A powerful volcanic eruption

Exercise D — Discussion Questions

Talk about these questions with a partner or in a small group.

1. What is one thing you already do to help the environment?
2. Do you think small actions, like walking instead of driving, can really make a difference? Why or why not?
3. What is one type of extreme weather that happens where you live?
4. How do you think future generations will feel about how we treat the planet today?
5. If you could ask a scientist one question about climate change, what would you ask?