

[Article] What is Climate Change?

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Important: *This article was rewritten to make it easier for students to understand.*

What Is Climate Change?

Climate change means long-term changes in temperatures and weather. These changes can happen naturally, like when there is a big volcanic eruption or changes in the sun's activity. But since the 1800s, human activities have been the main cause of climate change. This is mainly because we burn fossil fuels like coal, oil, and gas. Burning fossil fuels creates greenhouse gases. These gases act like a blanket around the Earth, trapping heat from the sun and making the Earth warmer. The main greenhouse gases are carbon dioxide and methane. These gases come from things like driving cars or heating buildings with coal. Cutting down trees also releases carbon dioxide. Farming and drilling for oil and gas produce a lot of methane. The main areas causing greenhouse gases are energy, industry, transport, buildings, farming, and land use.

Humans are responsible for global warming

Scientists have shown that almost all global warming in the last 200 years is due to human activities. Human actions like burning fossil fuels are creating greenhouse gases that are warming the Earth faster than any time in the last two thousand years. The Earth's average temperature is now about 1.2°C warmer than it was in the late 1800s, before the industrial revolution. This is the warmest it has been in the last 100,000 years. The last decade (2011-2020) was the warmest on record, and each of the last four decades was warmer than the one before. Many people think climate change just means warmer temperatures. But it also means other changes because everything on Earth is connected. Changes in one area can cause changes in another. Climate change now causes many problems like intense droughts, water shortages, severe fires, rising sea levels, flooding, melting ice, strong storms, and loss of animal and plant species.

People are experiencing climate change in different ways

Climate change affects our health, our ability to grow food, our homes, safety, and work. Some people, like those living on small islands or in poor countries, are more at risk. Rising sea levels and saltwater can force people to move, and long droughts can cause hunger. In the future, more people will have to leave their homes because of extreme weather.

Every bit of global warming matters

Scientists agree that keeping the global temperature rise to no more than 1.5°C will help avoid the worst climate impacts. But current policies may lead to a 3°C rise by the end of the century. Greenhouse gases come from all over the world, but some countries produce more than others. The seven biggest polluters (China, the United States, India, the European Union, Indonesia, Russia, and Brazil) make up about half of all global greenhouse gas emissions. Everyone needs to take action on climate change, but the countries causing more of the problem should do more to fix it first.

We face a big challenge, but we know many solutions

There are many solutions to climate change that can also help the economy and improve our lives. We have global plans like the United Nations' goals and agreements to guide us. We need to cut emissions, adapt to climate impacts, and find the money to make these changes. Switching from fossil fuels to renewable energy like solar and wind will reduce emissions. We need to act now. While many countries aim for net-zero emissions by 2050, we need to cut emissions by half by 2030 to keep warming below 1.5°C. This means using much less coal, oil, and gas. Adapting to climate change means protecting people, homes, businesses, and nature from current and future impacts. This is especially important for the most vulnerable people. Early warning systems for disasters, for example, can save lives and money.

We can pay now or pay more later

Taking action on climate change requires a lot of money from governments and businesses. But doing nothing will cost much more. Richer countries need to help poorer countries with \$100 billion a year so they can adapt and move to greener economies.