

GLOBAL WARMING

What Is Global Warming?

Many scientists think that as levels of **greenhouse gases** in the atmosphere rise, the temperature of our planet will rise as well. This is global warming. Specifically, the definition of global warming is when the **average global temperature of the Earth increases**.

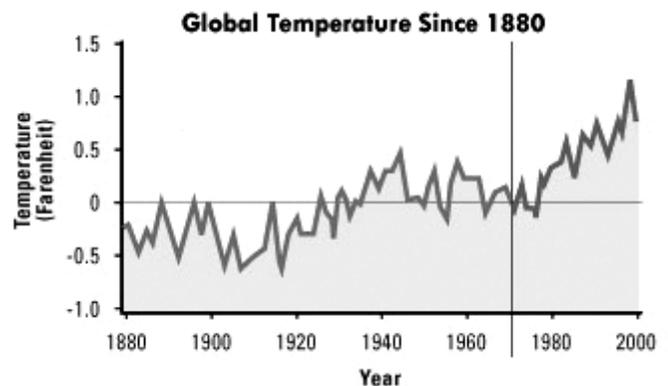
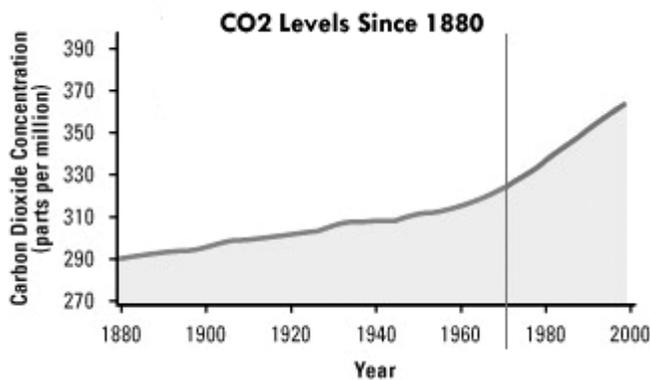


Earth's climate has been changing constantly over its 5-billion-year history. At times, the climate has been cold enough to cause ice ages that span across several continents. At other times, the climate has warmed so much that the oceans have risen and covered much of the Earth. Each of the changes may seem extreme, but they occurred gradually, taking millions of years.

However, temperatures around the world seem to be changing at a much faster rate now. The Earth has warmed by about 1°C over the past 100 years. This is actually a huge change compared to the past 250 million years.

Why Is The Earth Warming?

Many of the world's leading **climatologists** think that increases in greenhouse gases caused by human activities are making the Earth warmer. They say that the increase in greenhouse gases, such as **carbon dioxide**, is causing the Earth's natural **greenhouse effect** to become more powerful. This is like putting more blankets on your bed at night, trapping more heat!



Evidence For Global Warming

Climatologists point out several other things about our changing Earth that they say prove that global warming is happening.

1. Rising Global Temperatures

Global temperatures have risen more quickly in the past 20 years than at any time this century. In fact, the four warmest years of the last 20th century all happened in the late 1990s.

2. Melting Glaciers

A glacier is a large sheet of ice that moves very slowly. Many glaciers in the world are now melting away. For example, glaciers are melting in Montana's Glacier National Park. Some scientists think the glaciers are melting partly because the Earth is getting warmer. When glaciers melt, the liquid water then flows into rivers and ultimately, the oceans. This causes the sea level to rise.



3. Rising Sea Levels



At most beaches throughout the world, there high tides and low tides that occur twice every day. Scientists observing these tides have noted that the tide levels are higher than they were before. Over the last 100 years, the level of the sea has risen about 6-8 inches worldwide.

Scientists think the sea has risen partly because of melting glaciers, as discussed previously. Scientists also think that the warmer global temperature is making sea levels rise, since heat makes water expand.

Rising sea levels will have a huge impact on people living near the ocean. Most of the world's largest cities (including New York, Washington, San Francisco and Miami) are close to the sea. This could mean that huge numbers of people will have to move elsewhere because their homes will be flooded by the rising waters.



What Are The Future Effects?

Scientists are not fortune-tellers. They don't know exactly what will happen in the future. But they can use special computer programs to find out how the climate may change in the years ahead. These computer programs have shown that the Earth will continue to get warmer.

Together with melting glaciers, rising sea levels and computer models, scientists have some good clues to predict what will happen if global warming continues. Some of the proposed changes include:

- **Changes in habitats and ecosystems**
- **Loss of species due to migration and extinctions**
- **Melting ice caps and glaciers**
- **Higher sea levels and coastal flooding**
- **Increased cases of extreme weather including hurricanes, monsoons, drought and heat waves**
- **Spreading of tropical diseases into new areas that were once colder**
- **Famine and starvation in dry areas**



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