Climate Change FAQ

Q. 1) What Is Climate Change?

Climate change is a change in the usual weather found in a place. This could be a change in how much rain a place usually gets in a year. Or it could be a change in a place's usual temperature for a month or season. Climate change is also a change in Earth's climate. This could be a change in Earth's usual temperature. Or it could be a change in where rain and snow usually fall on Earth. Weather can change in just a few hours. Climate takes hundreds or even millions of years to change.

Q.2) What is the difference between weather and climate change?

Weather refers to short term atmospheric conditions while climate is the weather of a specific region averaged over a long period of time. Climate change refers to long-term changes.

Q. 3) What is the difference between global warming and climate change?

Although people tend to use these terms interchangeably, global warming is just one aspect of climate change. "Global warming" refers to the rise in global temperatures due mainly to the increasing concentrations of greenhouse gases in the atmosphere. "Climate change" refers to the increasing changes in the measures of climate over a long period of time - including precipitation, temperature, and wind patterns.

Q. 4) Why is climate change happening and what are the causes?

There are many "natural" and "anthropogenic" (human-induced) factors that contribute to climate change. Climate change has always happened on Earth, which is clearly seen in the geological record; it is the rapid rate and the magnitude of climate change occurring now that is of great concern worldwide. Greenhouse gases in the atmosphere absorb heat radiation. Human activity has increased greenhouse gases in the atmosphere since the Industrial Revolution, leading to more heat retention and an increase in surface temperatures. Atmospheric aerosols alter climate by scattering and absorbing solar and infrared radiation and they may also change the microphysical and chemical properties of clouds. Finally, land-use changes, such as deforestation have led to changes in the amount of sunlight reflected from the ground back into space (the surface albedo).

Q. 5) What are some signs of climate change?

Temperatures are rising world-wide due to greenhouse gases trapping more heat in the atmosphere.

- Droughts are becoming longer and more extreme around the world.
- Tropical storms becoming more severe due to warmer ocean water temperatures.
- As temperatures rise there is less snowpack in mountain ranges and polar areas and the snow melts faster.
- Overall, glaciers are melting at a faster rate.
- Sea ice in the Arctic Ocean around the North Pole is melting faster with the warmer temperatures.

- Permafrost is melting, releasing methane, a powerful greenhouse gas, into the atmosphere.
- Sea levels are rising, threatening coastal communities and estuarine ecosystems.

Q.6) What are the long-term effects of climate change?

Scientists have predicted that long-term effects of climate change will include a decrease in sea ice and an increase in permafrost thawing, increase in heat waves and heavy precipitation, and decreased water resources in semi-arid regions.

Q.7) How can climate change affect natural disasters?

With increasing global surface temperatures the possibility of more droughts and increased intensity of storms will likely occur. As more water vapor is evaporated into the atmosphere it becomes fuel for more powerful storms to develop. More heat in the atmosphere and warmer ocean surface temperatures can lead to increased wind speeds in tropical storms. Rising sea levels expose higher locations not usually subjected to the power of the sea and to the erosive forces of waves and currents.

Q.8) What Can We Do to Help?

Scientists think we can do things to stop the climate from changing as much. You can help by using less energy and water. Turn off lights and TVs when you leave a room. Turn off the water when brushing your teeth. You also can help by planting trees.
Another way to help is by learning about Earth. The more you know about Earth, the more you can help solve climate problems.

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Drought