

DID CLIMATE CHANGE HAPPEN BEFORE?

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Climate change, a term which most of us are familiar with today, has been a subject of concern in recent times. In the simplest words, it can be defined as long-term changes in the temperature as well as weather patterns, which will ultimately affect various aspects of life on the planet. Several factors have been associated with this occurrence, human activities being the major contributor. Scientific studies present that the starting point for the current climate change was the early 1800s, when the impact of greenhouse gases began. Amidst these discussions, a question which has certainly gained ground is, 'Did Climate Change occur before in the history of the Earth?'

Our planet was formed around 4.5 billion years ago. The Climate has never been stable, and the earth in its history has witnessed changes throughout. As per studies, the Climate had been majorly hotter and more humid than its present state, along with colder phases marked by various ice ages. Climate scientists have collected information from the pieces of evidence present in nature in the forms of ocean corals, cave stalagmites, long-lived trees, tiny shelled sea creatures and used it to determine the climatic history of the Earth. Furthermore, they also take into consideration natural factors like volcanic eruptions, changes in Earth's orbit, circulation of oceans, and sea ice which structure the climate in general. The studies based on these certainly point towards the fact that there have been instances of climate change in the history of the earth, led by geological factors.

The National Aeronautics and Space Administration (NASA), in an article, states that "in the last 650,000 years there have been seven cycles of glacial advance and retreat, with the end of the last ice age about 11,700 years ago." This information clearly points towards the changes in the temperature and climate of the planet at various intervals. This is further supported by graphs showcasing levels of CO₂ during various ice ages.

We can also find various instances of changing levels of carbon dioxide and its consequences. Some of them can be discussed here as well. A great example is the 'Jurassic Warming' event which has been regarded as a global warming event, 183 million years ago. The warming event was caused by volcanoes that released huge amounts of carbon dioxide into the atmosphere, which led to the greenhouse effect, causing the temperature of the earth to rise by 4°C-7°C.

The Earth's Cenozoic era (about 55.9 million years ago) was one of extreme warming and a huge amount of carbon that doubled the amount of CO₂ in the atmosphere. This hot climate caused massive migrations and extinctions.

Sudden climatic changes occurring before the Pleistocene have also been recorded. A transient thermal maximum has been recorded near the Paleocene-Eocene boundary (56 million years ago), and evidence of rapid cooling events are observed near the boundaries between both the Eocene and Oligocene epochs (33.9 million years ago) and the Oligocene and Miocene epochs (23 million years ago). All three of these events had global ecological, climatic, and biogeochemical consequences.

The Younger Dryas event (12,900 to 11,600 years ago) is the most deeply studied example of abrupt climate change. It took place during the last deglaciation which was a period of global warming. There was a sharp drop in temperatures in the North Atlantic region; cooling in Northern Europe and eastern North America is estimated at 4 °C to 8 °C.

Thus, it can be safely concluded on the basis of scientific studies and observed evidence that climate change was a part of the history of the earth. The earlier occurrences have been geologically stimulated and have shown adverse consequences too. Thus, the present threat of climate change being a result of human activities is a matter of urgent attention and needs to be looked into in order to escape harsh results in the future.

— FACT CHECK —

1. Despite accounting for only 4% of the global population, America is responsible for 25% of all historical carbon dioxide emissions due to fossil-fuel combustion.
2. Since 1880, the global average temperature has been continuously rising. The average temperature will climb by up to 3.1 degrees Celsius by 2100.
3. Climate change threatens the extinction of over one million species.
4. Humans began releasing more fossil fuels from coal, oil, and gas to power our automobiles, trucks, and industries when the industry began in the 1700s. You will save money on petrol and help to avert global warming by driving a “smarter” automobile.
5. The Clean Air Act, the nation's cornerstone air pollution law passed in 1970, gives the Environmental Protection Agency (EPA) both the authority and the obligation to decrease emissions from electric power plants.
6. As the water heats, scientists fear that coral reefs may be unable to adapt rapidly enough to the consequent shifting circumstances, leading to an increase in bleaching episodes and illnesses.

