



## GLOBAL WARMING OR GLOBAL COOLING?

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**Introduction.** Although nowadays multiple scientific organisations have shown solid evidence that Earth is going through global warming, some stories prove vice-versa, their main argument being those 2 years studies shown by NASA in data. However, you can't state the fact that our planet is going through global cooling based on such a short period. Studies have shown that on a larger time scale, atmosphere temperature can be explained using the Keeling Curve, which is a long-term study of CO<sub>2</sub> concentrations-the higher the concentration, the higher the temperature. And even if this curve is constantly jiggling up and down, meaning that the temperature during short periods such as a few years is either increasing or decreasing, the overall direction is an increase, meaning that slowly but steadily, Earth is warming on a global scale.

**Material and methods.** This research analysed the major aspects of global warming, using data provided by trustworthy scientific organisations, such as the Natural Resources Defence Council, National Geographic, NASA and others which have studied this field for a prolonged time. There have been avoided platforms that offered information without any reference to sources.

**Results.** Scientists generally regard the second half of the 19th century as the starting point of humanity influencing the global climate. How much of the warming since 1850 can be attributed to human emissions? Almost all of it. The intergovernmental Panel on Climate Change stated that greenhouse gas emissions are at an unprecedented level in the last 800.000 years, and the ones at fault are none other than humans.

The interdependence between carbonic acid gas and global temperatures have been confirmed during Earth's history. During the last 800.000 years, there have been CO<sub>2</sub> fluctuations, which were periodically higher or lower and the main cause were the changes of Earth's orbit around the sun, also known as Milankovitch Cycles. However, during this long-time frame, the concentrations of carbon dioxide have not been higher than 300 parts per million. Studies also have shown that this index began to grow since Industrial Revolution. Thus, in just less than 200 centuries humanity raised concentrations to more than 400 ppm.

Global warming has been a hot topic between highly developed countries, as it is already a worldwide problem. With current policies, by 2050 global temperature will be higher with 1.5°C. 20% of the people living in regions have already seen warming greater at least with 1.5 degrees Celsius in one of the seasons. That means that at least once every 5 years Earth's population will be exposed to severe heatwaves, and if the temperature will continuously rise by 0.5 degrees, the percentage of the victims will be doubled. This "insignificant growth" may cause annually deadly heatwaves like in Pakistan during 2015 with temperatures as high as 49°C, which caused 2000 deaths from dehydration and heat-stroke, severe damage to livestock as well as agriculture.

**Conclusions.** To sum up, Earth periodically is passing through short term cooling, but overall, the temperature is steadily growing, and the reason is humanity. In just 2 centuries, the concentrations of carbon dioxide increased to about 1.3 of the norms. The effects of global warming look as follows: more greenhouse gasses->higher temperature->calamities->destruction and death.