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Contemporary Climate Change and Global Warming

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Description

Global warming and its effects on Earth's weather patterns are both parts of contemporary climate change. There have been previous periods of climate change, but the current changes are much faster and are not caused by natural factors. Instead, greenhouse gas productions, primarily carbon dioxide and methane, are the main reasons. The majority of these emissions are mostly caused by the burning of fossil fuels for energy. Additional sources include agricultural practices, industrial processes, and forest loss. As greenhouse gases are apparent to the sunlight, they permit it to reach the Earth's surface and heat it. The gases absorb the heat that the Earth emits as infrared radiation, trapping it near the Earth's surface. As the earth warms, changes such as the loss of sunlight-reflecting snow cover exacerbate global warming. Temperatures on earth surface have risen twice as quickly as the worldwide average. Heat waves, as well as wildfires, have become much more common, and deserts are expanding. Melting permafrost, glacial retreat, and sea ice loss have all been attributed to increasing warming in the Arctic. Intense storms and other weather extremes are becoming more common as temperatures rise. Many species are being forced to relocate or become extinct as a result of rapid changes in the environment in mountains, coral reefs, and the Arctic. Food and water scarcity, increased flooding, extreme heat, more disease, and economic loss are all threats posed, according to the by climate change. Climate change World Health Organization (WHO), is the greatest threat to global health in the twenty-first century. Even if efforts to reduce future warming succeed, some consequences will last for centuries. Sea level rise and warmer, more acidic oceans are two examples.

Switching away from fossil fuels and toward electricity generated from low-carbon sources will be required to achieve significant reductions in emissions. This includes phase-outs of coal-fired power plants, vastly increased use of wind, solar, and other types of renewable energy, conversion to electric vehicles, conversion to heat pumps in buildings, and energy conservation measures. Carbon can also be discharged into the atmosphere by increasing forest cover, for example. While communities can adapt to climate change by improving coastal protection, they can't avoid the risk of severe, widespread, and long-term consequences. Feedbacks change the climate system's response to an initial increase forcing: self-reinforcing feedbacks the response while balancing feedback reduces it. The water-vapour feedback, the ice-albedo feedback, and the net effect of clouds are the main reinforcing feedbacks. The primary balancing mechanism is radiative cooling, which occurs when the Earth's surface emits more heat into space as the temperature rises. There are feedbacks in the carbon cycle as well, such as the fertilising effect of carbon dioxide on plant growth, in addition to temperature feedbacks. The fact that different climate models project different magnitudes of warming for a given amount of emissions is due to uncertainty over feedback. Because greenhouse gases warm the air, they can hold more moisture. Because water vapour is a powerful greenhouse gas, it heats the atmosphere even more. More sunlight will be reflected back into space as cloud cover increases, cooling the planet. Clouds act as an insulator, reflecting heat from below back downwards and warming the planet as they grow higher and thinner. Clouds are the most significant source of feedback uncertainty.

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