

GLOBAL WARMING

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Global warming is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades, and its projected continuation. Models referenced by the Intergovernmental Panel on Climate Change (IPCC) predict that global temperatures are likely to increase by 1.1 to 6.4 °C (2.0 to 11.5 °F) between 1990 and 2100. The uncertainty in this range results from both the difficulty of predicting the volume of future greenhouse gas emissions and uncertainty about climate sensitivity and feedback effects.

An increase in global temperatures can in turn cause other changes, including a rising sea level and changes in the amount and pattern of precipitation. These changes may increase the frequency and intensity of extreme weather events, such as floods, droughts, heat waves, hurricanes, and tornados. Other consequences include higher or lower agricultural yields, glacier retreat, reduced summer stream flows, species extinctions and increases in the ranges of disease vectors. Warming is expected to affect the number and magnitude of these events; however, it is difficult to connect particular events to global warming. Although most studies focus on the period up to 2100, even if no further greenhouse gases were released after this date, warming (and sea level) would be expected to continue to rise for more than a millennium, since CO₂ has a long average atmospheric lifetime. Causes of global warming.

The climate system varies through natural, internal processes and in response to variations in external "forcing" from both human and natural causes. These forcing factors include solar activity, volcanic emissions, variations in the earth's orbit (orbital forcing) and greenhouse gases. The detailed causes of the recent warming remain an active field of research, but the scientific consensus identifies greenhouse gases as the main influence. The major natural greenhouse gases are water vapor, carbon dioxide, methane, and ozone.

Adding carbon dioxide (CO₂) or methane (CH₄) to Earth's atmosphere, with no other changes, will make the planet's surface warmer. Greenhouse gases create a natural greenhouse effect without which temperatures on Earth would be an estimated 30 °C (54 °F) lower, so that Earth would be uninhabitable. It is therefore not correct to say that there is a debate between those who "believe in" and "oppose" the greenhouse effect as such. Rather, the debate concerns the net effect of the addition of greenhouse gases when allowing for compounding or mitigating factors. Inevitable consequences of global warming: damage to human health; severe stress on forests, wetlands, and other natural habitats; dislocation of agriculture and commerce; expansion of the earth's deserts; melting of polar ice caps and consequent rise in the sea level; more extreme weather events. That's why global warming is a problem that worries a lot of scientists in all countries.

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