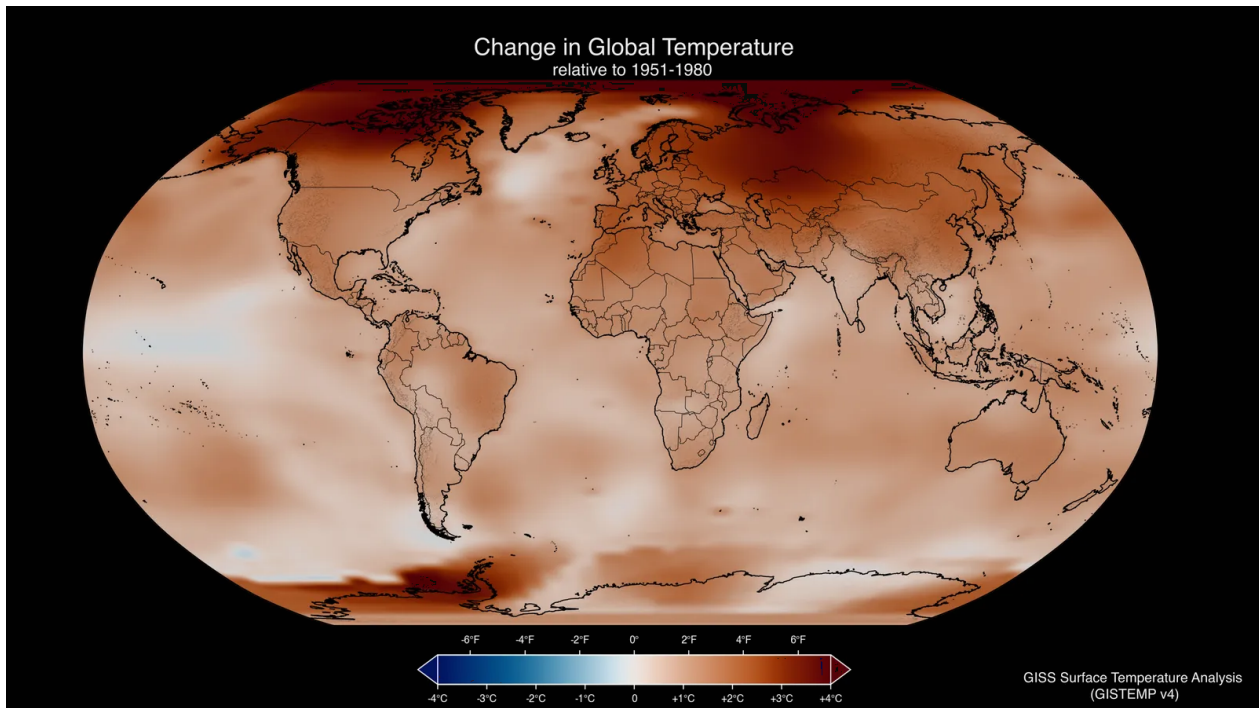


Climate change

By Lennart Kiil



The change in annual mean temperature in 2025 compared with the 1951-1980 average. Almost the whole globe has become warmer, the Arctic most of all.

NASA Scientific Visualization Studio, NASA/GISS. Public domain. [Wikimedia Commons](#).

Change in global [climate](#) over time.

Climate change is measured by changes in temperature in the [atmosphere](#). In some periods the temperature change is very slow, in other periods the change can be quite fast.

When the global temperature is increasing, it is referred to as [global warming](#). A decrease in global temperature over a longer period is called an [ice age](#).

Climate change can have natural causes or it can be caused by human activity. Purely natural causes include [volcanic activity](#), ocean variability, and [solar variation](#). Humans have no influence on these.

When climate change is caused by humans it is sometimes called [anthropogenic](#) climate change.

Most [experts agree](#) that the main contributors to climate change today are [greenhouse gases](#). There has been a big increase in the [emission](#) of greenhouse gases since the time of [industrialization](#). This increase is due only to human activity. Most of the increase is due to CO_2 produced by the use of [fossil fuels](#).

The amount of [methane](#) in the atmosphere has also increased a lot since industrialization. Today more than half of all methane emissions stem from human activities.

A significant part of climate change is caused by other processes which also occur both naturally and to which humans also contribute very significantly: [Aerosols](#), [glaciation](#), and [albedo](#).

Often human activities will speed up natural processes leading to accelerated climate change.

Predictions about future long term changes in climate are made by using [climate models](#). These models use supercomputers to process gigantic amounts of data from the past and the present in an attempt to predict future climate.

Data from short term changes in climate are used by [meteorologists](#) in climate models to predict changes in weather. This is called weather forecasting.

The study of climate and climate change is [climatology](#) and it includes all the factors that can affect the climate.

The [UNFCCC](#) defines climate change more narrowly as the change in climate caused by human activity. Therefore the UNFCCC definition is only dealing with climate change that has taken place recently.

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