

Is climate change human-made?

Facts:

Carbon dioxide emissions are at their highest in 650 000 years.

1. **Global sea level:** rose about 17 cm in the last century. Over the last two decades, however, the rate of increase has grown to nearly twice as high as in the last century, and seems to be accelerating even more.
2. **Global temperatures:** Fifteen of the 16 hottest years on record have occurred since the year 2000. (The Economist, Oct.1, 2016)
3. **Arctic ice sheets:** Antarctica lost about 152 km² of ice between 2002 and 2005. Water from ice sheets and melting glaciers contribute to rising sea levels.
4. **Glacial retreat:** glaciers are retreating around the world.
5. **Extreme weather events:** extremely high temperatures, heavy winds and thunderstorms have been increasing since the 1950s.
6. **Warming oceans:** the top layer is getting warmer at a rate of 0.2°F per decade.
7. **Acidity of oceans:** increase of about 30% since the beginning of the Industrial Revolution as a result of increasing amounts of carbon dioxide.

Data extracted from: [NASA: Global climate change](#)

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<ul style="list-style-type: none"> ○ More than 90% of experts and scientists with high expertise and extensive peer-reviewed research agree that climate change is caused by human activity. 	<ul style="list-style-type: none"> ○ There is a number of scientists that disagree and believe that climate change is not primarily caused by humans, but also by the environment itself. Some claim that there is too little information to put the blame solely on human activities.
<ul style="list-style-type: none"> ○ The overall effect of human activities (burning of fossil fuels) since the Industrial Revolution has been a warming effect, driven primarily by emissions of carbon dioxide. 	<ul style="list-style-type: none"> ○ There could be natural causes for climate change, e.g. volcanic activities and changes in solar radiation, which have occurred all through Earth's history.
<ul style="list-style-type: none"> ○ Carbon dioxide is a long-lived greenhouse gas which will continue to affect the climate. 	<ul style="list-style-type: none"> ○ CO₂ is already saturated in the atmosphere, so more emissions will have no or little further impact on the climate. ○ Human-caused CO₂ emissions are too insignificant to change the earth's climate.
<ul style="list-style-type: none"> ○ A rise in global temperature has coincided with the rise of carbon dioxide emissions within the same period of time (approximately since the beginning of the 20th century). 	<ul style="list-style-type: none"> ○ The earth is capable of absorbing any increase of CO₂ emissions. Oceans can absorb CO₂ and forests have increased their growth rates, which leads to a lower level of CO₂ in the atmosphere.
<ul style="list-style-type: none"> ○ The rise of CO₂ emissions leads to global warming, loss of sea ice, rise of sea levels, stronger and more frequent storms and more periods of severe drought. 	<ul style="list-style-type: none"> ○ Some scientists argue that the measurements are faulty or manipulated or that there is simply not enough information. According to them climate change is a hoax.
<ul style="list-style-type: none"> ○ Average temperatures on earth have increased much faster than can be explained by natural climate changes. 	<ul style="list-style-type: none"> ○ The rise in temperatures in the 20th century is within the natural boundaries.