FACT SHEET

8 Common Myths about Climate Change

January 2023

8 Common Myths about Climate Change

Which myth are you curious about? Click to explore!

Climate change is a natural process, so there is nothing to worry about.

The Earth is overpopulated; that's the problem.

Global warming will only affect us in 2050 and onward.

We will adapt to climate change just like we adapt to everything else.

It’s already too late to fix the climate.

The use of plastics has nothing to do with climate change.

CO2 cannot cause global warming if plants thrive on it.

The climate cannot be warming because it’s still cold where I live.

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Test your knowledge first!

#1 – Which of the following is true?

a) Overpopulation is responsible for global warming.
b) Global warming will begin around the year 2050.
c) It's too late to fix the climate; all we can do is try to adapt.
d) Overconsumption contributes to climate change.

#2 – Which of the following is largely responsible for the current climate crisis?

a) Multiple volcanic eruptions across the globe
b) Human activity
c) Changes in global oxygen levels
d) Asteroids

#3 – Which of the following is true?

a) The average individual is to blame for the overconsumption problem.
b) Extreme weather and decline in food supplies will affect underprivileged individuals the most.
c) Human activity is not strong enough to cause large shifts in the climate.

#4 – Which of the following is not a consequence of global warming?

a) Extreme weather conditions
b) Decline in local food supplies
c) Large human migrations
d) All of the above are consequences of global warming.

#5 – Where does excess CO2 go?

a) Atmosphere
b) Oceans
c) Evacuated into space
d) A and B

ANSWERS:
1. d; **2.** b; **3.** b; **4.** d; **5.** d.

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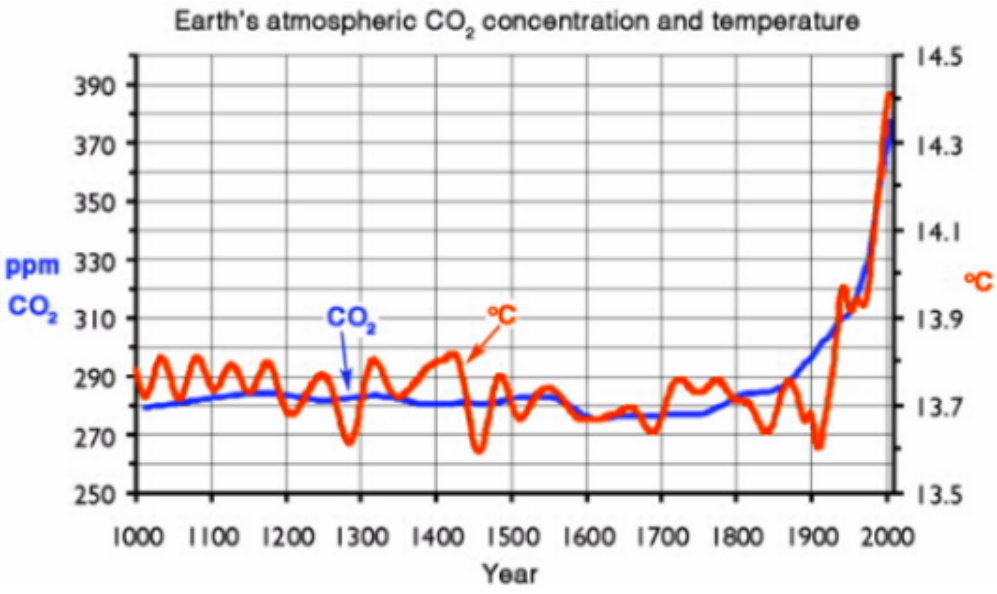
Myth 1: Climate change is a natural process, so there is nothing to worry about.

Most historical shifts in the global climate resulted from natural phenomena like volcanic eruptions, changes in oxygen levels, asteroids or comets, and competition between species (Stern and Kaufmann, 2014). Today, climate change is caused and worsened by **human activity**—an effect that started in the 1760s with the birth of the industrial period.

The following chart displays changes in global CO2 levels (in blue) and temperatures (in red) across centuries. Note that between 1750 and 2000, CO2 levels and temperatures rise exponentially; this is no coincidence.



Source: Anonymous. (n.d.). "Climate Has Changed Before". *American Chemical Society*. URL: https://www.acs.org/content/acs/en/climatescience/climatesciencenarratives/climate-has-changed-before.html

Myth 2: The Earth is overpopulated; that's the problem.

The **industrial period** led to prospering economies, but it also accompanied a revolutionary scientific era that extended the human life span and decreased mortality rates (*Populations*, United Nations). As a result, the global population between 1800 and 2000 more than quadrupled (see Figure 1).

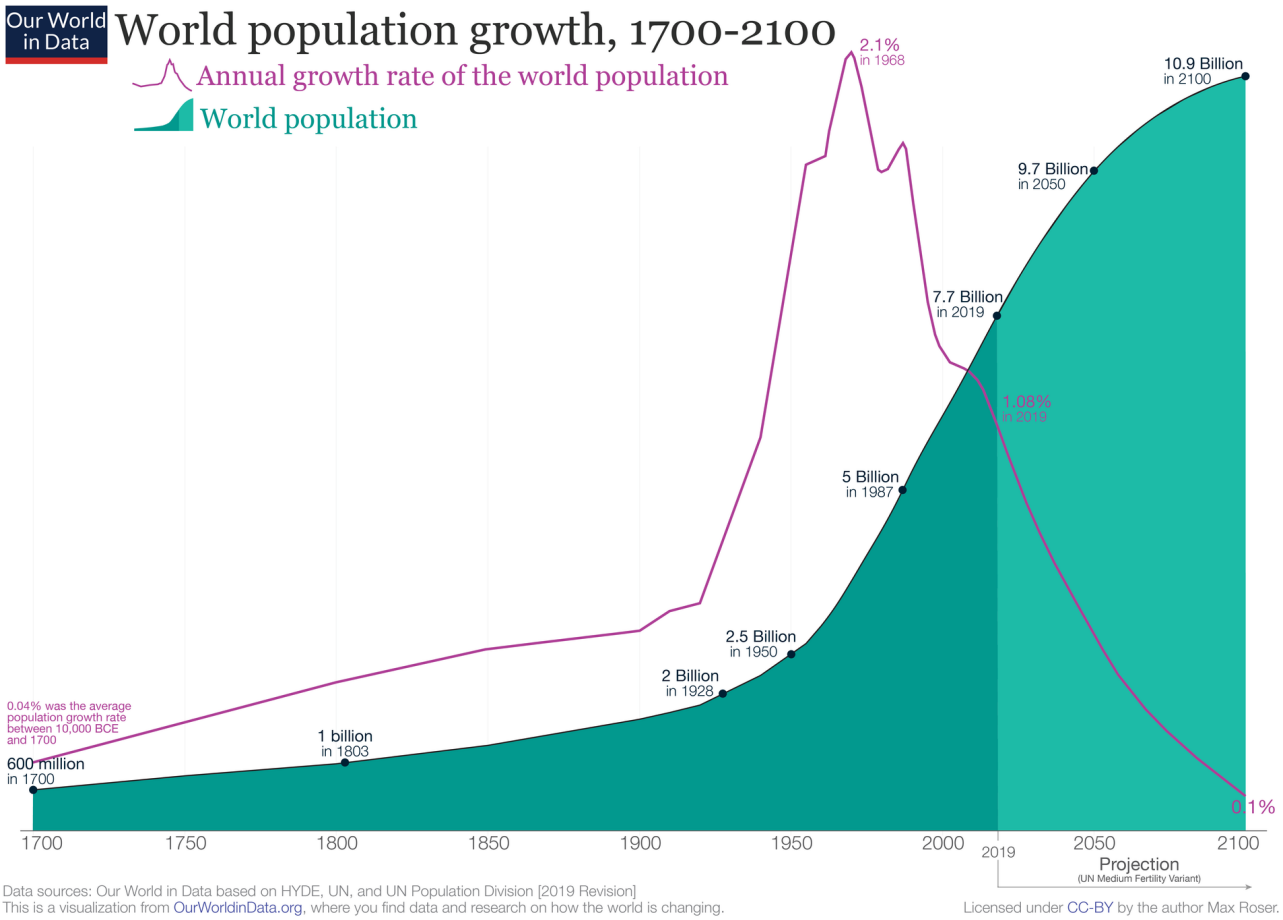


Figure 1: Our World in Data based on HYDE, UN and UN Population Division [2019 Revision]. URL: https://ourworldindata.org/world-population-growth

When supporting this myth, people assume that more people equates to a greater use of resources, but scientists assert that this is not a cause of climate change (Jorgenson et al., 2019; Weber and Sciubba, 2018). They claim that more than enough resources exist to satisfy the needs of every human on this planet. The real problem is **overconsumption**, and large corporations and wealthy individuals are immense contributors (Stuart et al., 2020).

Myth 3: Global warming will only affect us in 2050 and onward.

Most schools between the 1970s and 2010s taught children that global warming is a future problem, and this might have seemed to be the case back then, but with growing data, we know that fact no longer holds. Global warming is a current problem, and more recent scientific work confirms that our deadline to correct the situation is getting threateningly closer (Pörtner et al., 2022).

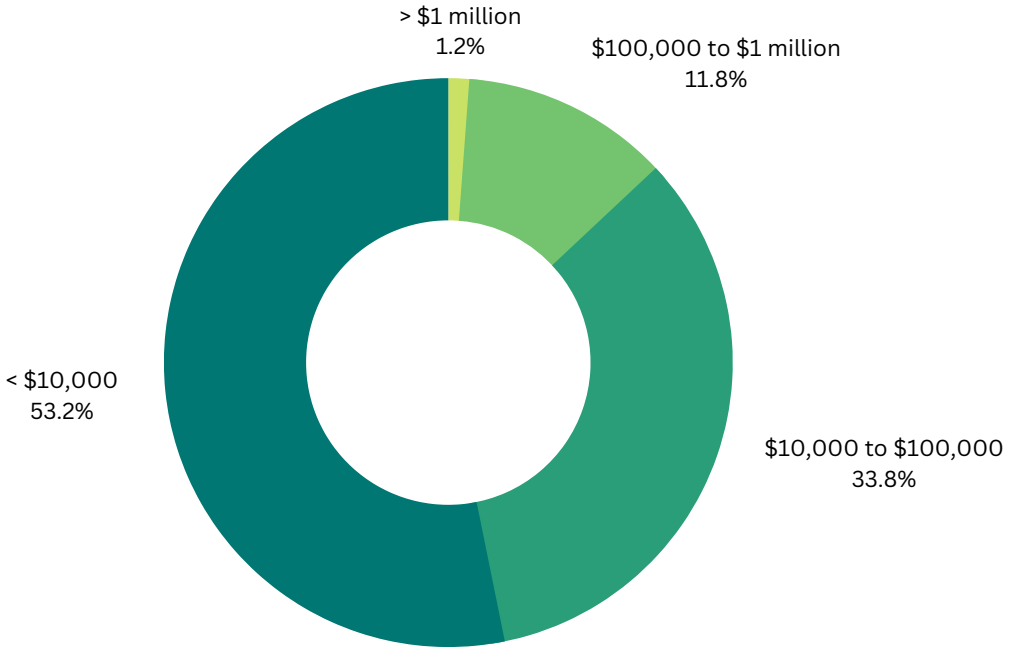
Myth 4: We will adapt to climate change just like we adapt to everything else.

Humans have the incredible ability to adapt to changes in their environment, i.e., their local climate. This ability, coupled with the use of technology, can provide even better possibilities for adaptation and survival in extreme conditions. For example, we can build shelters to evade cold temperatures, air cooling systems to resist heat, and barricades around coastline cities to mitigate the effects of floods.

All this is great, and the extinction of our species is luckily not anywhere in the near future, but this does not mean that we are in the clear. Climate scientists predict that many regions, especially in South Asia and the Middle East, risk becoming inhabitable due to extreme weather events and a lack of food and water sources (Busby, 2021). For those who are unable to move, a decline in local food supplies and the inability to afford imported goods will result in poorer health outcomes (Richards et al., 2021).

Climate adaptation plans are already in the works in multiple countries, but this does not guarantee a happy ending for all. The problem is as follows: those with financial privilege will fare better than underprivileged communities that will likely face significant losses. For example, moving to safer regions and gaining access to steady sources of food supply require a good amount of financial security, a luxury that 53-87% of the world does not possess (Global Wealth Report 2022, Credit Suisse).

Global Wealth Distribution in 2021

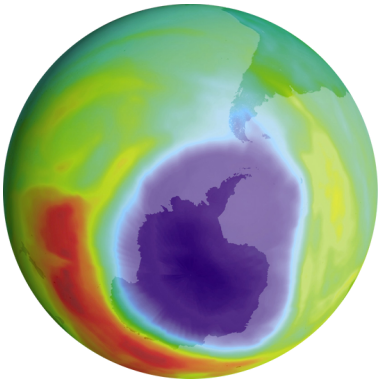


Source: This chart was recreated based on the data from *The Global Wealth Pyramid: An overview of global wealth distribution in 2021* found in the Credit Suisse 2022 Global Wealth Report.

Myth 5: It's already too late to fix the climate.

Whereas the previous myth was overly optimistic, this one is especially cynical. Fortunately, the world is not ending just yet, and with appropriate measures, we can surmount the challenges of climate change and even prevent worse outcomes.

Not convinced yet? In the 1990s, the news of the growing hole in the ozone layer made headlines everywhere, and people panicked to say the least.



In 2018, to the surprise of many, scientists announced that the **ozone layer** was regenerating itself and that the hole was slowly shrinking (Petrescu et al., 2018). What caused this reversion? Climate protocols and timely actions.

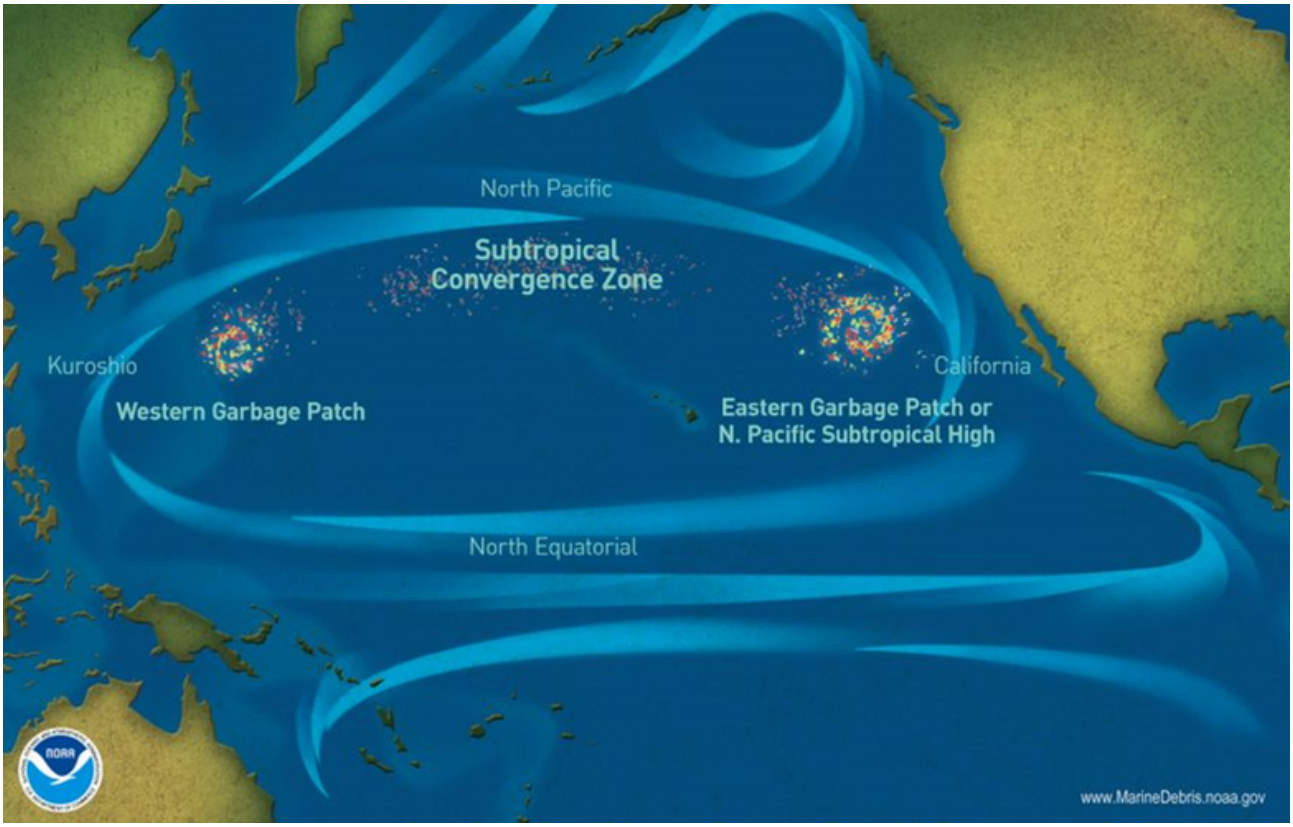
To achieve positive changes in the climate, we must move towards **sustainable** lifestyles and advocate for ecological practices across all industry sectors: it's not too late.

Myth 6: The use of plastics has nothing to do with climate change.

The mass production of plastic requires massive amounts of money, energy, and area for its disposal following use. It is a well-known fact that plastics are non-biodegradable, but plastics also emit **greenhouse gases** as they slowly decompose (Shen et al., 2020).

Garbage island–a collection of plastic and other debris floating in the North Pacific Ocean–represents another great concern, namely its effects on marine life (Huang, 2017). A recent study found that **zooplankton** experience severe damage from plastic ingestion (He et al., 2021).

These creatures help absorb CO2, which prevents oceans from becoming acidic and imposing a lethal threat upon other marine life. With them gone, the excess CO2 problem goes unresolved.



Myth 7: CO2 cannot cause global warming if plants thrive on it.

Carbon dioxide is ubiquitous in the environment; plants rely on it to fuel **photosynthesis**. In excess amounts, however, carbon dioxide disturbs photosynthesis, impairs plant growth, and affects physiological functions (Chaudhry and Sidhu, 2022).

All of these changes multiply the negative consequences of global warming as they render plants unable to absorb atmospheric CO2 adequately.

Where does this excess CO2 go? Simply put, it stays in the atmosphere or dissolves into the ocean where it turns into carbonic acid and leads to **ocean acidification** (Doney et al., 2020).

Myth 8: The climate cannot be warming because it's still cold where I live.

When we compare two places on the globe that are distantly related (e.g., Canada versus Ethiopia), we are essentially comparing apples to oranges. It will always be cold (or colder) in one place compared to another simply due to their geographic location.

To paint an accurate picture, we must compare the temperatures of one location with the temperatures of the same location in previous years. For example, **Eastern Antarctica**–also known as the coldest place on Earth–is a place where scientists have monitored temperatures for decades (Turner et al., 2020). Their observations display alarming trends: Figures 2 and 3 portray them.

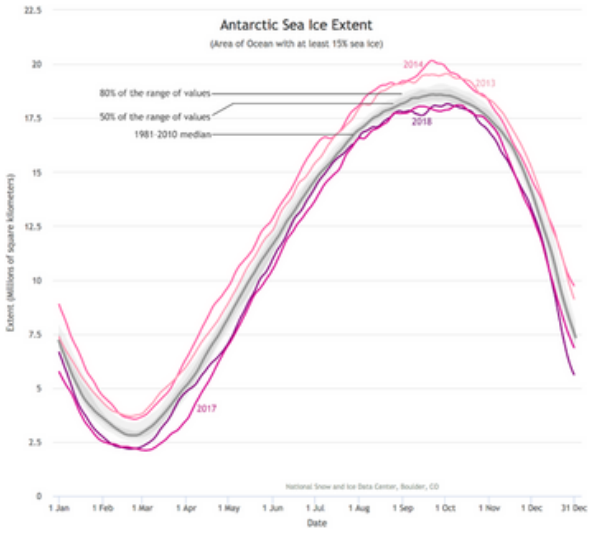


Figure 2: This chart displays the change in ice cover in the Antarctic Sea over the past years. As it can be seen, with each passing year, sea ice extent decreases (NOAA Climate.gov).

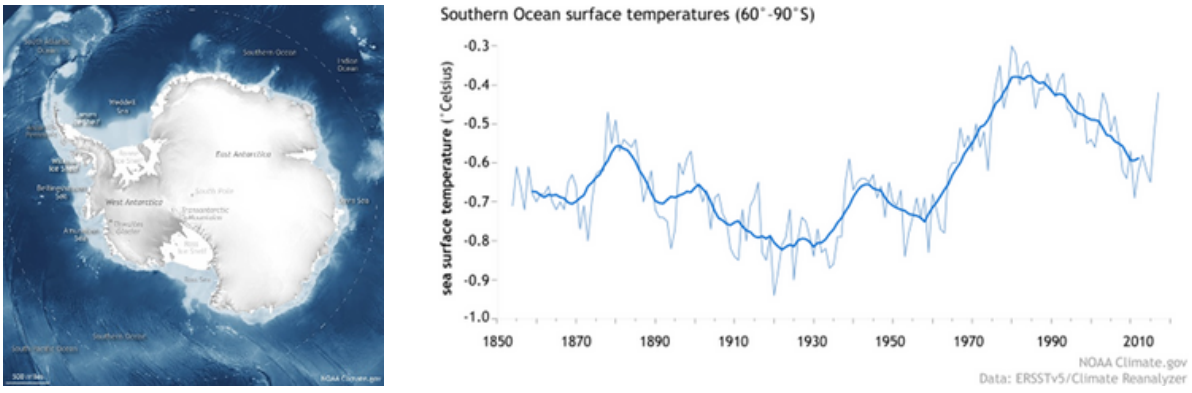


Figure 3: This chart displays the average sea surface temperatures in the Southern Ocean around Antarctica from 1850–2017. This analysis was conducted by Climate Reanalyzer at the University of Maine Climate Change Institute (NOAA Climate.gov).

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