

FIVE FACTS, TEN WORDS

Our mission at the YPCCC is to advance the science of climate change communication. Using scientific experiments and surveys of the public, we study what people know, feel, think, and do about climate change. The data we collect gives us insight into the underlying psychological, cultural, and political factors that influence different individuals. We use these insights to help leaders, the media, and educators like you better inform the public about climate change.

To simplify the scientific complexity of climate change, we focus on communicating five key facts that everyone should know:

- Scientists agree.
- It's real.
- It's us.
- It's bad.
- ... There's hope!

LET'S BREAK THEM DOWN:

1 IT'S REAL



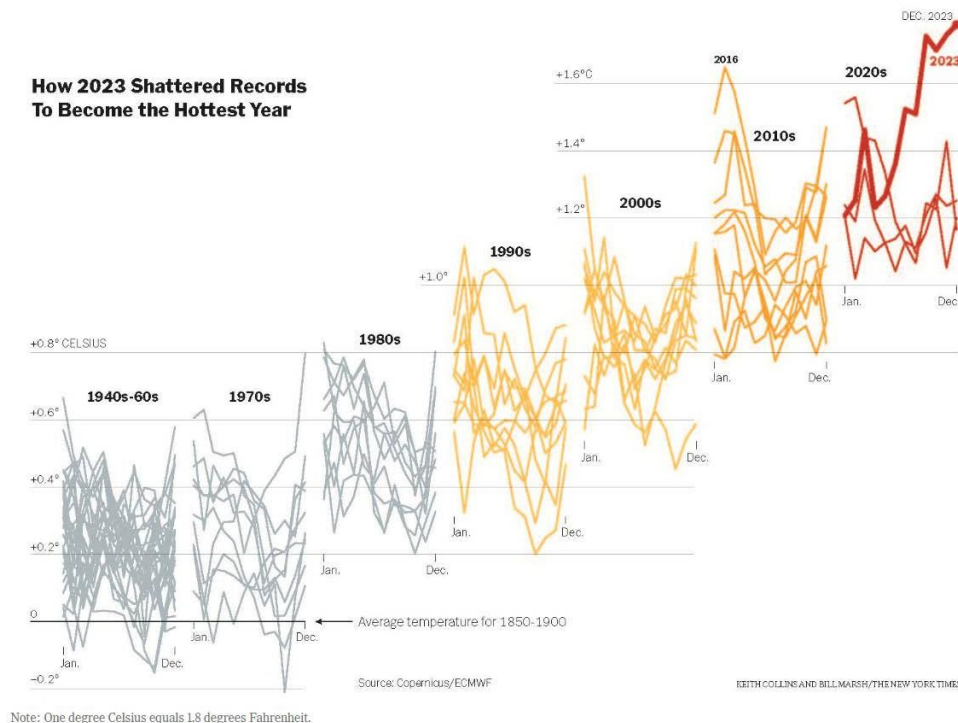
Figure 1. <https://www.scientificamerican.com/article/why-are-glaciers-melting-from-the-bottom-its-complicated/>



1

Figure 2. <https://climate.nasa.gov/evidence/>

Figure 2, a graph published by NASA shows the increase of carbon dioxide in the atmosphere over the last 600,000 years. Carbon dioxide is a greenhouse gas. Greenhouse gases act like a blanket, trapping heat in the atmosphere, which increases global temperatures, as seen in the graph below.



2

Figure 3. <https://www.nytimes.com/2024/02/01/learning/whats-going-on-in-this-graph-feb-7-2024.html>

Here we can see how much the global temperature has increased since the late 1800's, which corresponds to the increase in atmospheric carbon dioxide pictured in Figure 2.

1. [Find NASA's most recent data on carbon dioxide here.](#)
2. [Find NASA's most recent data on global temperature here.](#)

2 IT'S US



Figure 4. (Image Credit: plherrera / Getty Images)

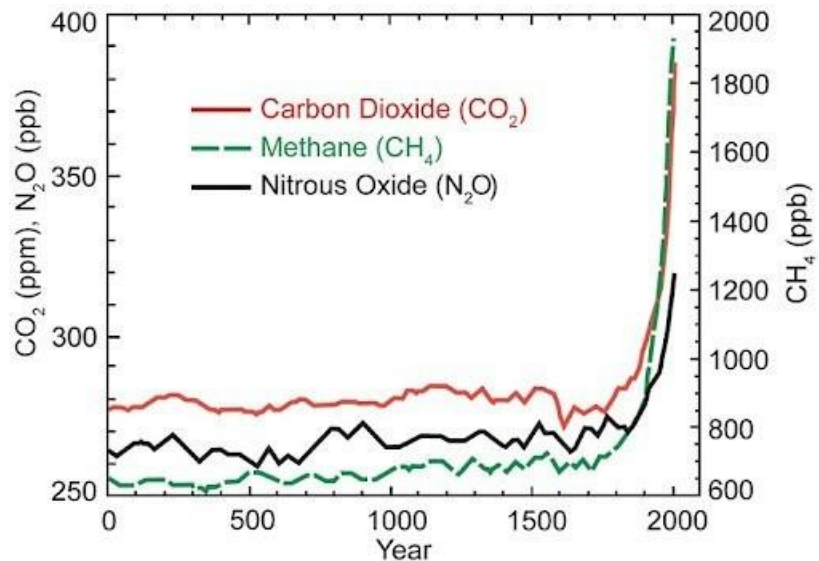


Figure 5. <https://archive.epa.gov/epa/climate-change-science/causes-climate-change.html>

As you can see from this graph from the 2014 U.S. National Climate Assessment (Figure 5), the dramatic increase in atmospheric carbon dioxide levels and levels of other greenhouse gases coincides with the start of the Industrial Revolution in the late 1700s. When people began burning fossil fuels like coal, oil, and natural gas to power new manufacturing processes, greenhouse gas emissions increased dramatically, leading to rising global temperatures and, subsequently, climate change.

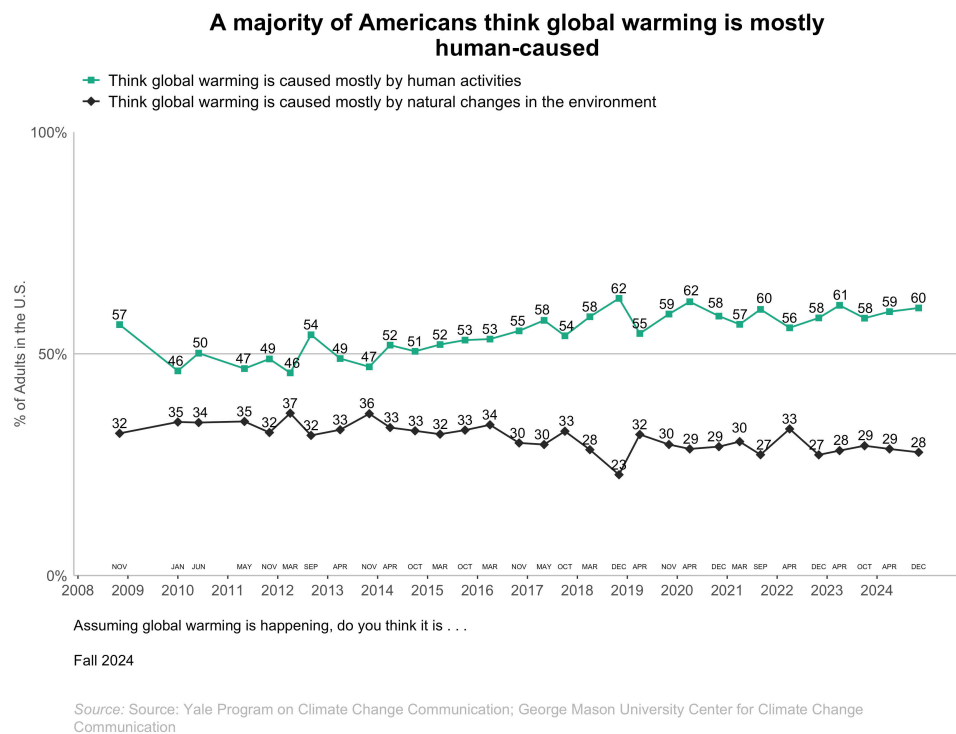


Figure 6. <https://climatecommunication.yale.edu/publications/climate-change-in-the-american-mind-beliefs-attitudes-fall-2024/toc/3/>

As of Fall 2024, YPCCC research shows that over half of Americans think that humans are primarily responsible for global warming.

3

IT'S BAD



Figure 7. (Image Credit: switas / Getty Images)

After Hurricane Sandy in 2012 (aftermath pictured on the previous page), the public and the media began to connect the dots between extreme weather and climate change. Since then, attributing the intensity of extreme weather to global warming has become more common, and we’ve seen even more discussion of the connection between global warming and increasingly severe hurricanes, droughts, heatwaves, and wildfires. A mental model of how global warming works may be beginning to cohere among the public.

What’s the mental model? Burning fossil fuels like coal, oil, and natural gas releases carbon dioxide and other greenhouse gases into the atmosphere. Once in the atmosphere, greenhouse gases act like a blanket trapping heat. Increased temperatures cause increased evaporation of moisture from the Earth’s surface. This means that more water is available in the atmosphere for big rain and snow events. Increased evaporation also means more drought, which can lead to fires. Thus, burning fossil fuels is leading to increases in the likelihood of extreme weather events.

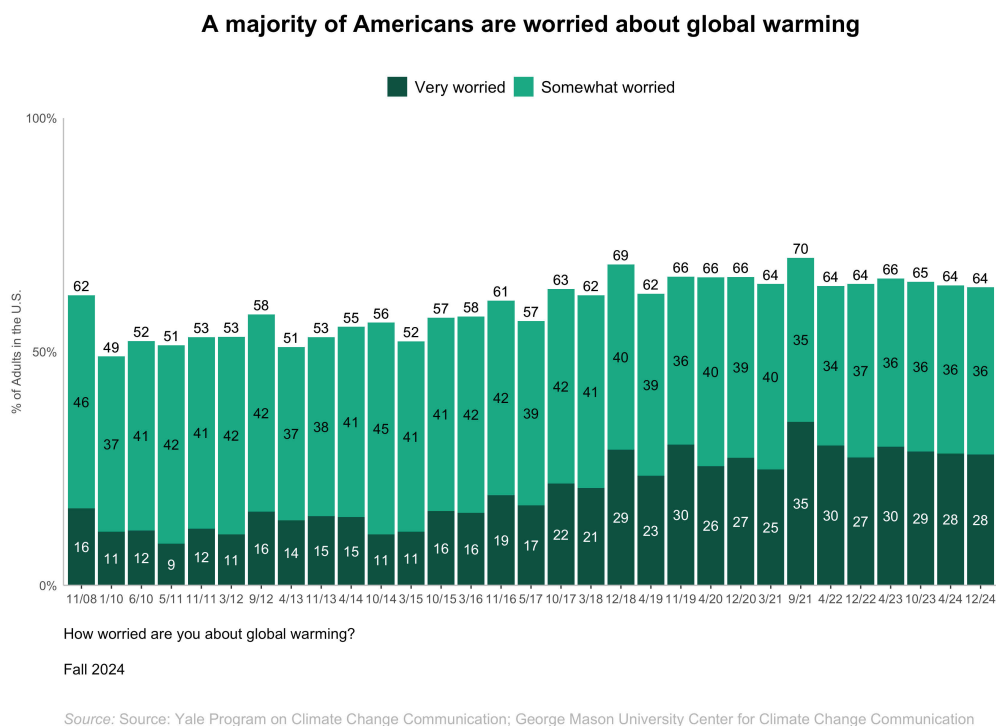


Figure 8. <https://climatecommunication.yale.edu/publications/climate-change-in-the-american-mind-beliefs-attitudes-fall-2024/toc/5/>

Data from YPCCC and George Mason University shows that most Americans are at least somewhat worried about global warming and its impacts. Does this data surprise you?

4 SCIENTISTS AGREE



Figure 9. <https://crankyuncle.com/which-climate-scientists-are-in-the-97-consensus-poster/>

Can you see the scientists who aren't raising their hands?

Pretty hard, right? Understanding the scientific consensus that human-caused global warming is happening is sometimes called a “gateway belief.” This is because people who understand the scientific consensus are more likely to believe that global warming is happening, human caused, and bad. People are then more likely to take action to address climate change and urge others to do so, too.

If your perception is that the experts still disagree, you're much less likely to be convinced yourself, because scientists are among the most trusted messengers in American society.

But this is changeable! Most people increase their perception of the scientific consensus when told that 97% of climate scientists have concluded that human-caused global warming is happening, and in turn become more likely to accept that climate change is happening, human-caused, and a serious problem.

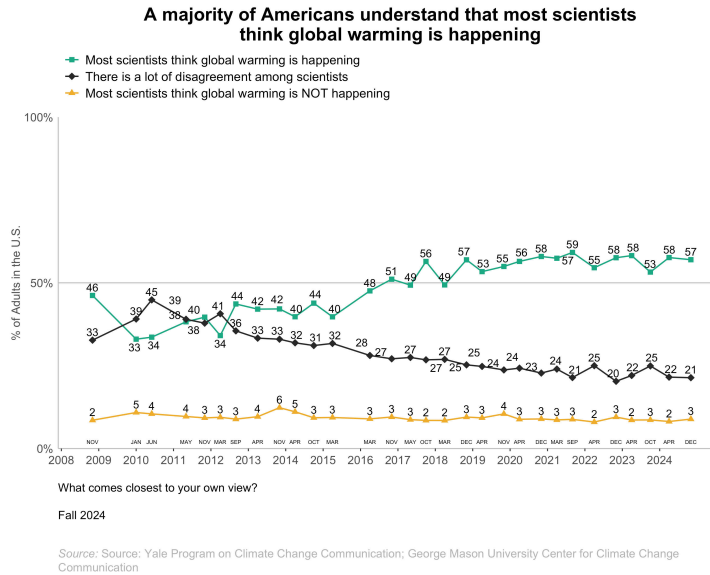


Figure 10. <https://climatecommunication.yale.edu/publications/climate-change-in-the-american-mind-beliefs-attitudes-fall-2024/toc/3/>

5 THERE'S HOPE



Figure 11. (Image credit: Daniel Bosma / Getty Images)

There are many proven solutions to climate change that are now scaling up and making a real difference. Renewable energy technology provides clean energy and creates jobs. Solar energy, for instance, is growing 17 times faster than the economy overall, and according to the Bureau of Labor, one of the fastest growing jobs in the United States is being a wind technician.

In addition to renewable energy, there are many natural solutions to keeping carbon in the soil and out of the atmosphere, such as habitat restoration and conservation, modifying our agricultural practices, and reducing food waste. Explore [Project Drawdown](#) to learn more about these and other solutions to climate change.

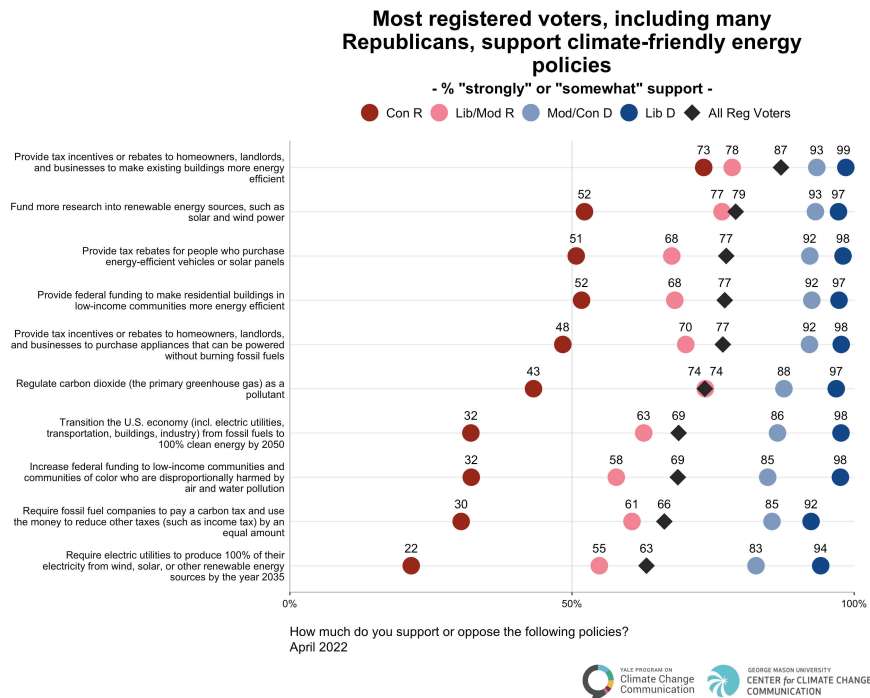


Figure 12. <https://climatecommunication.yale.edu/publications/politics-global-warming-april-2022/toc/6/>

According to YPCCC's Politics and Global Warming Report, based on data collected in April 2022, large majorities of registered voters across party lines support numerous policies to reduce carbon pollution and promote clean energy. The report found similar bipartisan support for conservation and restoration policies, including policies to increase federal funding to low-income communities and communities of color who are disproportionately harmed by air and water pollution.

Additionally, as recently as Fall 2024, 77% of American adults believe that schools should teach about global warming. Research also shows that Americans who remain hopeful about global warming are consistently more likely than those with less hope to say they will act on global warming.