

What changes minds about climate change?

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Glacial melt in the Himalayas. Credit: State of the Planet

Seventy percent of Americans now believe global warming is occurring, and more than half understand that it is mainly caused by human activity, a new report reveals. This is an improvement over 2013, said Edward Maibach, a principal investigator on the report, which came out of the Yale Program on Climate Change Communication and the George Mason University Center for Climate Change Communication.

Four years ago, 23 percent of Americans did not believe global warming was happening and 33 percent believed that if it was happening, it was mostly caused by natural changes in the environment. The 2017 survey reveals that 13 percent of Americans still do not believe global warming is happening, and 30 percent believe that any warming of the planet is due to natural causes. More Americans are coming to agree with the vast

majority of climate scientists who say human-induced [climate change](#) is occurring, but what about the rest? What does it take to change someone's mind about climate?

This spring, Reddit, the social news and media aggregation site, posed a question to its users, "Former climate change deniers, what changed your mind?" The question elicited 645 comments.

Many of the respondents said they were originally influenced by the skeptical beliefs of their families, communities and religion, but studying environmental science in high school or college was pivotal in changing their attitudes. One person said of his college geography class, "It was my first non-'5000 year old earth/creationism' science class. The amount of measurable, observable proof was just too much to ignore."

Another, whose parents didn't believe in climate change, took a marine life science class in high school and wrote that "The terms like 'melting ice caps' and 'rising sea level' went over my head until that class showed me the drastic change of glaciers in just half a century, and we watched a couple of clips of gigantic glaciers in the North Pole collapsing and disappearing in just 30 minutes."

A number of people were troubled by the changing climate and weather, including a former skeptic who'd been persuaded by "Heat waves, fires, torrential rain, and the Great Barrier Reef dying." Several realized that those pushing climate denial were politically motivated. One person recounted, "I realized that many of the other people denying [anthropogenic climate change](#) were being funded by the fossil fuel industry and that almost everyone else—most importantly, the vast majority of climate scientists—agreed on the human cause." Some were swayed by the strong desire, whether stemming from their religion or love of nature, to care for the planet regardless of whether or not climate change is occurring.

Al Gore's An Inconvenient Truth, the Youtube videos of potholer54 on the science of global warming, the Planet Earth series, the documentaries Chasing Ice and Before the Flood, and xkcd's comic Earth temperature timeline were cited as pivotal in changing a few minds.



Coral bleaching in the Great Barrier Reef. Credit: Oregon State University

Although it was not a scientific study, the Reddit survey shows that, for some, scientific facts matter and are persuasive.

According to a George Mason [2016 National Survey of Broadcast Meteorologists](#), 21 percent of weathercasters have changed their opinions about climate change since 2011. Most say this was a result of new peer-reviewed climate science, the increasing certainty of the scientific community, and climate scientists and meteorologists who influenced them. North Carolina meteorologist Greg Fishel was once skeptical of human-induced climate change, but changed his opinion after reading scientific papers and talking to climate scientists.

Jerry Taylor, former staff director for the energy and environment task

force at the American Legislative Exchange Council and vice president of the Cato Institute, was a professional and vocal climate skeptic who rejected renowned [climate scientist](#) James Hansen's predictions about climate change back in the 1980s. He was challenged to double-check Hansen's predictions and realized they were accurate. After that, when confronting climate skepticism, Taylor found that "Either the explanations for findings were dodgy, sketchy or misleading or the underlying science didn't hold up." Today he is president of the Niskanen Center, a think tank that advocates for a global carbon tax to combat global warming

In these cases, "People decided to look into the data themselves, rather than continue to listen to what other people were telling them," George Mason University's Maibach wrote in an email. "Few people are that motivated or that able to look at data, however, so I don't expect lots of people's minds will be changed by encouraging them to dig into the data."

Indeed, for many who are dismissive of climate change, facts and data have little or no effect because people tend to seek out and assess information that reinforces what they want to believe. The Cultural Cognition Project at Yale Law School found that individuals process factual information about risk in a way that jibes with their existing worldview, core identity, and that of the group with which they identify (since people do not want to be kicked out of their tribe). Moreover, their reluctance to adopt the policies necessary to lessen the risks of climate change influences their willingness to believe the information in the first place. This is why, very often, facts are not persuasive. Indeed, sometimes an argument about the science can make things worse and harden attitudes if it is taken as criticism or a personal attack.

Climate scientist Katharine Hayhoe, a professor in the department of political science and director of the Climate Science Center at Texas

Tech University, and an evangelical Christian, is considered one of the most effective advocates for climate change action today. She believes science and faith are entirely compatible, and she's well known for being able to effectively communicate with conservative communities.

Hayhoe does not like to use the term "climate denier" because she thinks it makes the issue too black or white when, in fact, the Yale/George Mason 2009 Global Warming Six Americas report showed that there is a spectrum of responses to global warming, from alarmed to concerned, cautious, disengaged, doubtful, or dismissive.



Credit: Duncan Hull

As of 2016, only 9 percent of Americans were dismissive of [global warming](#).

"For dismissive people, it would take a miracle from God to change their mind," said Hayhoe. "There is nothing I could ever do or say that would ever change their minds because their identity, who they are, is predicated on this very rigid political ideology that includes denying the

science of climate change." She no longer wastes her time trying to persuade them unless it is in a public audience setting. Her goal is to move the larger percentage of people who are doubtful, disengaged and cautious into the "concerned" category. And because people who are alarmed can't maintain that level of alarm for long and may become disengaged, Hayhoe tries to "talk them off the cliff" by showing them that there are solutions.

In her [Global Weirding](#) Youtube series, Hayhoe discusses a broad range of climate change issues, explains the science, dispels myths and offers suggestions on effective communication. What is most persuasive, she says, is information about how climate change affects us, especially when it's tied to something we care about.

Hayhoe recommends bonding with people by "identifying what you have in common, then connecting the dots between what both of you already care about and the issue of climate change." Only offer explanations to answer questions they actually ask.

And it's important to conclude with solutions. If we present people with challenges or problems without providing solutions they can engage with, they feel powerless, Hayhoe explains. Their only defense mechanism then is to deny the problem or ignore it. That's why it's crucial to offer viable, attractive and practical solutions to the problem, such as discussing the benefits of energy conservation, ways to make playgrounds safer as the weather warms, the advantages of national energy independence, or the economic benefits of renewable energy.

In fact, taking action with concrete solutions can actually help change minds. "Belief and action are connected," said anthropologist Ben Orlove, co-director of the Earth Institute's Center for Research on Environmental Decisions. "Belief is often a basis for action. But once you're committed to a course of action, you tend to find lots of reasons

for why you did it."

Hayhoe told a story that illustrates just this point. For years, her colleague argued the science of climate change with his father who was a long-time doubter, but he was never able to change his father's mind. Finally the local community offered a big rebate to get solar panels, so the father installed them on his house. One year later, after telling everyone what a good deal it was and how much money he had saved, the father came to Hayhoe's colleague and said, "You know, that climate thing might be real after all."



Flooding in Miami. Credit: MiamiBrickell

Peter de Menocal, founding director of Columbia University's Center for Climate and Life, is working to change minds on a bigger and more influential scale—those of people who manage billions of dollars in big industry, big commerce, and big finance. "There's a much larger and more important group of people who are on the fence, who are running businesses and leading large investment decisions, who have never heard a rational argument for why climate change matters to them," de Menocal said. "These are people making decisions that affect the value

of our 401Ks. They want to know whether the decisions they are making have excess risk attached to them or whether they're missing specific opportunities."

A recent conference hosted by the multinational private equity firm KKR, the Columbia Business School, and the Center for Climate and Life paired leading climate scientists with business and investment leaders. The scientists discussed climate change's place- and time-specific risks and how that profile is shifting, but stopped short of talking about the business implications; the investment specialists then explained how that knowledge is being turned into action in the marketplace. They did this for sea level rise, extreme weather events, and drought.

The idea behind that strategy is this: If scientists can predict more accurately how and when sea level rise will likely affect a particular zip code, and if someone in the financial sector acts on that knowledge by pulling investments out of real estate in that area, it sets in motion a cascade of effects as others wonder why the company is moving its money. "This sidesteps policy, since in the current administration, we're not going to make any progress on policy in my opinion," said de Menocal. "But if you just make it plain that there is a social cost of carbon and it is going to impact your investments and your retirement account or the value of your home, it gets people's attention." The recognition that policies to deal with climate change are needed will naturally follow.

"I think this is going to be the revolution because I really don't think it's effective for climate scientists to have a finger wagging approach about what society should and shouldn't do," said de Menocal. "Our role is to quantify risk and to define the timing of that risk, and what we need to do better is to communicate that to the stakeholders."

In the end, perhaps trying to change people's minds is not the smartest approach, said Maibach. "Rather, if the goal is to build public support for policies that will limit climate change, it may be more effective to simply give a range of reasons why the policy makes sense, including but not limited to—and not leading with—climate changes."

The Climate Solutions Caucus in Congress, which includes 25 Democrats and 25 Republicans who are concerned about climate change, is trying to do just that. Its mission is to "educate members on economically viable options to reduce climate risk and to explore bipartisan policy options that address the impacts, causes, and challenges of our changing [climate](#)."

While agreeing on solutions may be challenging, there are goals that members of both political parties should be able to support, such as the need for clean air and water, reduced pollution, innovative energy solutions, enhanced public health and sufficient food, water, shelter, and energy for all. And regardless of political persuasion, every American would benefit if we were able to achieve these goals.

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