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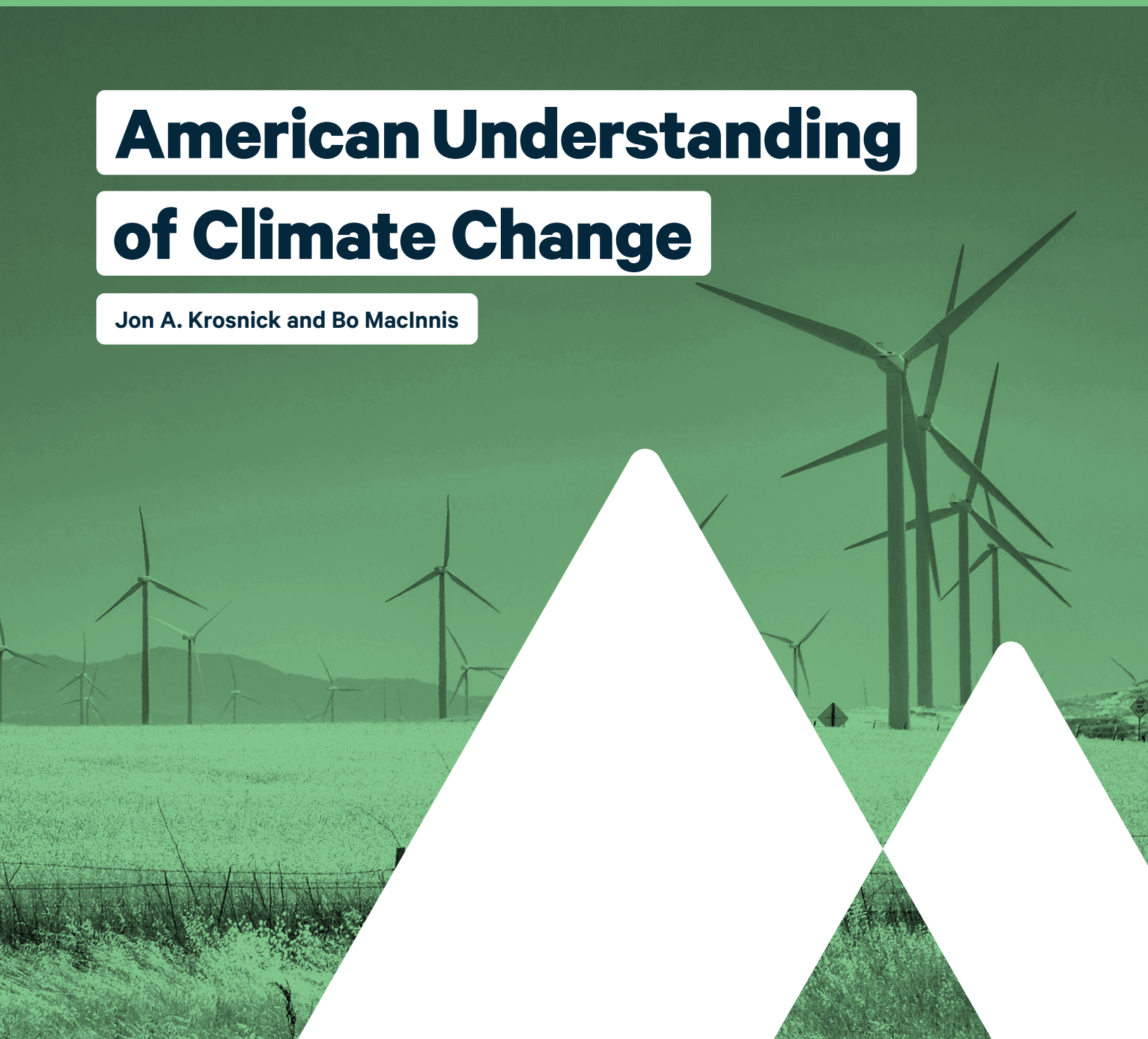
RESOURCES *for the* FUTURE

CLIMATE INSIGHTS

2024

American Understanding of Climate Change

Jon A. Krosnick and Bo MacInnis



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About RFF

Resources for the Future (RFF) is an independent, nonprofit research institution in Washington, DC. Its mission is to improve environmental, energy, and natural resource decisions through impartial economic research and policy engagement.

RFF is committed to being the most widely trusted source of research insights and policy solutions leading to a healthy environment and a thriving economy. The views expressed here are those of the individual authors and may differ from those of other RFF experts, its officers, or its directors.

About the Project

Since 1997, Stanford University Professor Jon A. Krosnick has explored American public opinion on these issues through a series of rigorous national surveys of random samples of American adults, often in collaboration with RFF. This latest report is the first in the 2024 Climate Insights report series by researchers at Stanford University and RFF examining American public opinion on issues related to climate change.

For the 2024 iteration of the Climate Insights survey, 1,000 American adults were interviewed during the 130-day period from October 16, 2023, to February 23, 2024.

This Climate Insights report focuses on Americans' beliefs and certainty, as well as public opinion on the threats of climate change and who should be responsible to act to mitigate it. Future installments in this series will address American public opinion on climate policies and politics, environmental justice, and areas of partisan agreement and disagreement. This series is accompanied by an interactive data tool, which can be used to view specific data from the survey. Please visit **https://www.rff.org/climateinsights** or **https://climatepublicopinion.stanford.edu/** for more information and to access the data tool, report series, and more.

Note: When this research program began in 1997, "global warming" was the term in common parlance. That term was used throughout the surveys over the decades and was always defined for respondents so it was properly understood. The term "climate change" has risen in popularity, so both terms are used in this report interchangeably. When describing survey question wordings and results, the term "global warming" is used, to match the term referenced during interviews. Empirical studies have shown that survey respondents interpret the terms "global warming" and "climate change" to have equivalent meanings (Villar and Krosnick 2011).

Acknowledgments

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Sharing Our Work

Use of any material in this publication should be credited to the following: Krosnick, Jon A., and Bo MacInnis. 2024. Climate Insights 2024: American Understanding of Climate Change. Washington, DC: Resources for the Future.

The data included in this report comes from sources with varying sharing policies. Please check the references for more information, and email **krosnick@stanford.edu** with any questions.

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Introduction

For over two decades, the Political Psychology Research Group at Stanford University and Resources for the Future (RFF) has been tracking American public opinion on climate change using high-quality scientific surveys. The most striking result of this continued polling has been the overall consistency of the results.

Many observers thought that Hurricane Katrina, Hurricane Sandy, west-coast wildfires, the unusually cold winter of 2018–2019, as well as numerous other extreme weather events might have convinced people to embrace the existence and threat of climate change (Bergquist et al. 2019; Hornsey et al. 2016; Howe 2021; Konisky et al. 2015; Sisco 2021; van der Linden 2015; Visconti and Young 2024). Likewise, tutorials such as the reports by the Intergovernmental Panel on Climate Change; Al Gore's movie, *An Inconvenient Truth*; and relentless news media coverage of natural science research findings seemed likely to have done the same.

On the flip side, some observers thought that the so-called "pause" between 2005 and 2010 in the increase of world temperatures might have caused a decline in public acknowledgement of warming (Lewandowsky et al. 2016). Some scholars cited Maslow's (1943, 1954) "hierarchy of needs" and the "finite pool of worry" theory (Weber 2006, 2015) to suggest that the September 11, 2001, attacks; COVID-19 pandemic; and other major events might have pulled public attention away from climate change and in other directions, perhaps reducing concern about that issue and even leading to more denial of its existence and threat (Evensen et al. 2021; Gregersen, et al. 2022; Marasco et al. 2023; Sisco et al. 2023; Smirnov and Hsieh, 2022; Stefkovics and Hortay, 2022). Yet surveys by the Political Psychology Research Group and RFF documented no short-term or long-term effects of such "shocks" (Krosnick and MacInnis 2020).

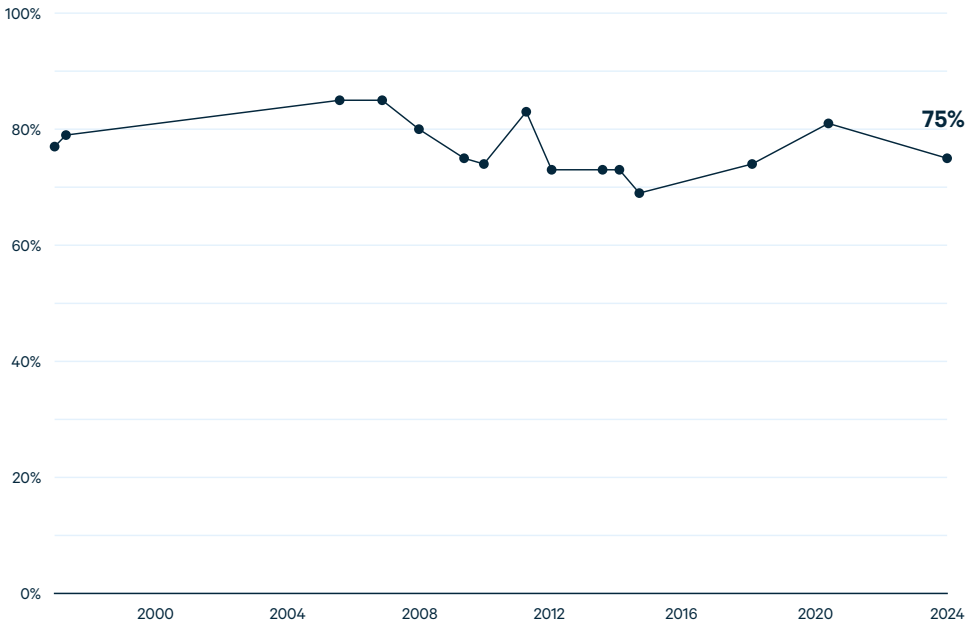
Our newest survey allows another test of the notion that shocks might alter public opinion on this issue. In this report, we not only describe the results of the 2024 survey but also compare its findings to those of prior surveys.

Although most questions asked in the new survey manifest no notable changes from 2020, a small handful of questions manifested statistically significant change from 2020 to 2024, in the direction of less endorsement of climate change's existence and less trust in scientists who study the environment. And as compared to 2020, more Americans believe that the federal government is now taking substantial action to address climate change.

Fundamentals

In 2024, the proportion of Americans who said that the earth has probably been warming over the past 100 years is 75 percent (Figure 1). This is a statistically significant decline from 83 percent in 2020, an 8 percentage point difference. This proportion has risen and fallen over the years since our first survey in 1997, and the 2024 result is within the range of values observed in prior surveys. Thus, it would be inappropriate to say that the current figure is "unusually low." Furthermore, the general conclusion that at least three of every four Americans acknowledge warming remains valid.

Figure 1. Percent of Americans who believe the earth's temperature "has probably been increasing" over the past 100 years



“Americans who believe global warming exists are more confident than four years ago, while people who are skeptical are less confident.”

The proportion of people who are highly certain of their beliefs about global warming’s existence has increased over the past 27 years. Among people who believed that global warming has been occurring, the proportion of highly certain (extremely or very sure) individuals was 45 percent in 1997 and has reached an all-time high of 66 percent in 2024 (Figure 2).

Among people who believe that global warming has not been happening over the past 100 years, the proportion who are highly certain declined from 43 percent in 2020 to 37 percent in 2024 (Figure 2). Thus, Americans who believe global warming exists are more confident than four years ago, while people who are skeptical are less confident.

Figure 2. Of the Americans who believe the earth’s temperature has or has not been increasing, the percentage who are extremely or very sure

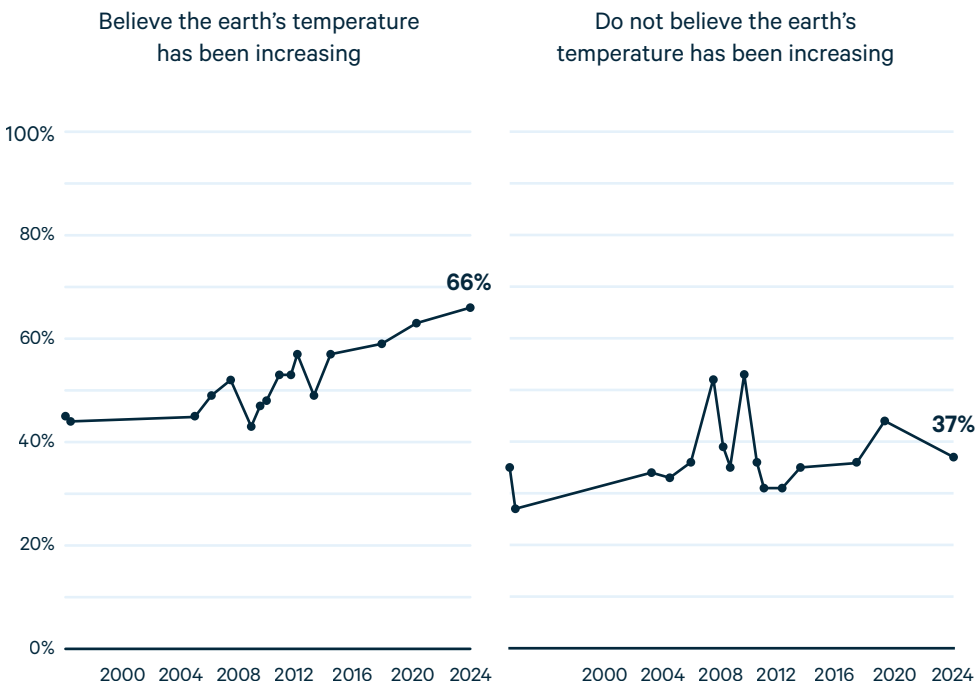
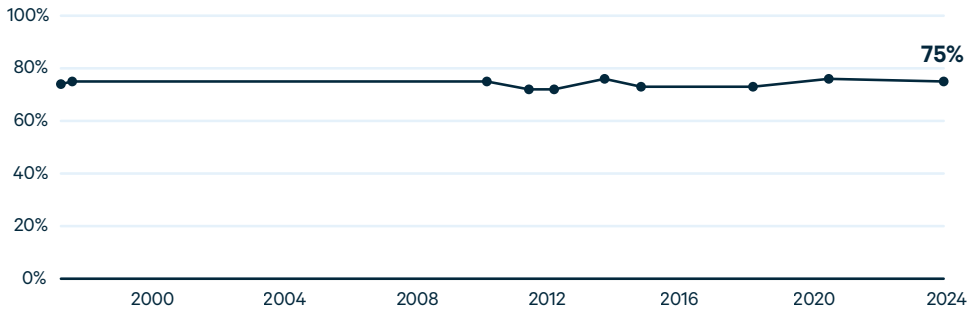


Figure 3. Percent of Americans who believe the earth's temperature "will probably increase" over the next 100 years

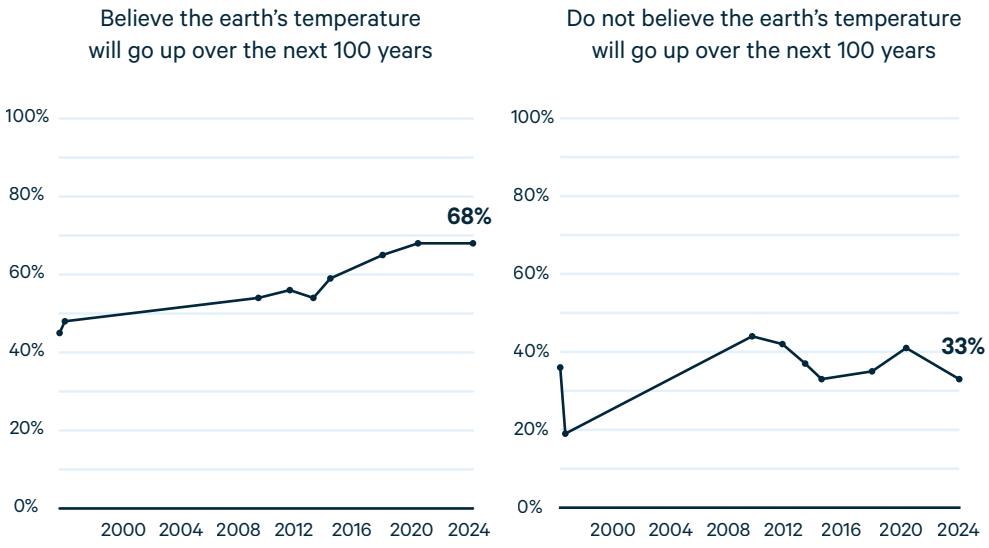


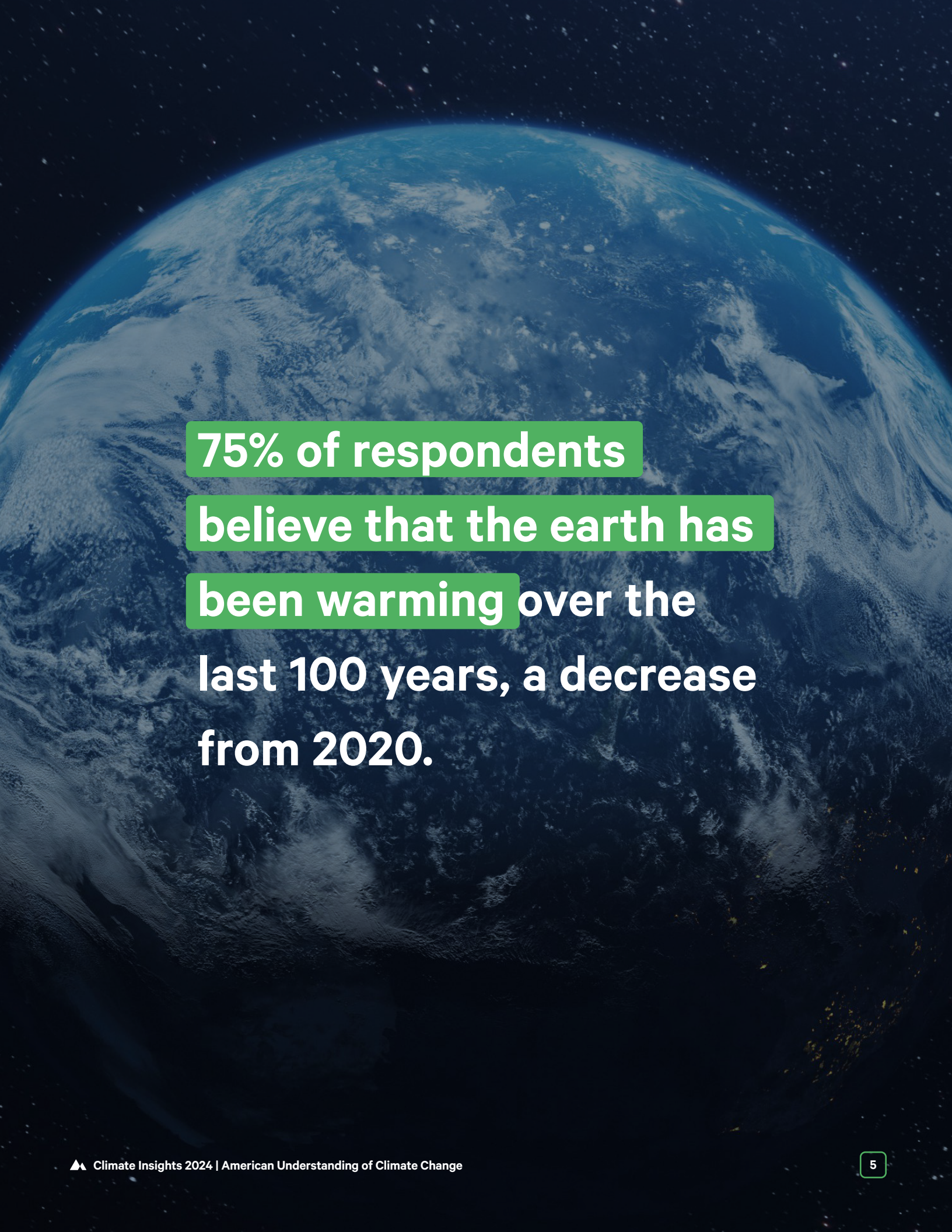
The proportion of Americans who believe that warming will occur in the future if nothing is done to address it remains about the same as it was in 2020. In 2024, 75 percent of Americans believe that the earth's temperature will probably go up in the next 100 years—similar to the percentages observed in 2020 (76 percent) and in 1997 (74 percent) (Figure 3).

Among Americans who believe that global temperatures will probably increase over the next 100 years if nothing is done to address it, 68 percent are extremely sure or very sure (Figure 4). This percentage was 66 percent in 2020.

Skepticism regarding future warming is held with slightly less conviction in 2024 than it was four years ago. Among people who believe that warming will not occur over the next 100 years, 33 percent are highly certain now, compared to 41 percent in 2020 (Figure 4). This difference is not statistically significant.

Figure 4. Of the Americans who think the earth's temperature will or will not go up over the next 100 years, the percentage who are extremely or very sure





75% of respondents believe that the earth has been warming over the last 100 years, a decrease from 2020.

Causes and Threat

The percentage of Americans who believe humans have caused global warming has not changed notably during the twenty-first century. When asked whether global warming has been caused primarily by human activity, primarily by natural processes, or by both about equally, 83 percent of respondents pointed to human activity in 2024—nearly the same as the 81 percent observed in 1997 and the 82 percent observed in 2020 (Figure 5).

Perceived threat of warming was measured in multiple ways, one of which involved asking respondents whether an increase in global temperatures over the past 100 years has been good, bad, or neither good nor bad. 60 percent of respondents said "bad" in 2024, identical to 60 percent in 2020 (Figure 6).

When asked a similar question about future warming of 5°F 75 years from now, 64 percent of respondents said that would be "bad," slightly up from 61 percent in 1997 but down from 70 percent in 2020 (Figure 7).

Figure 5. Percentage of Americans who believe human action has been at least partly causing global warming

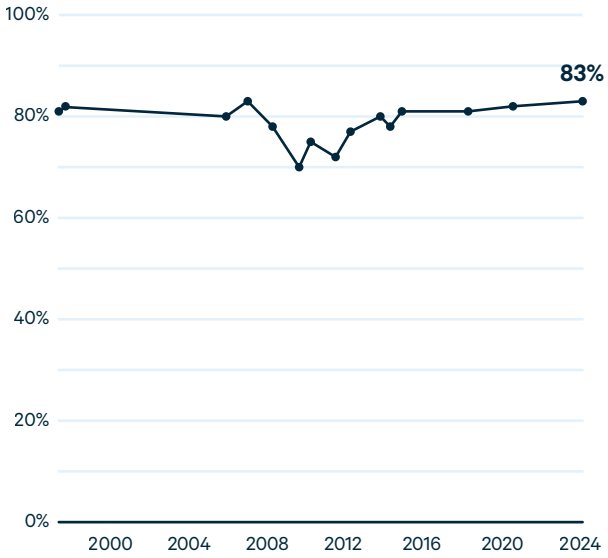


Figure 6. Percentage of Americans who believe the increase in global temperatures over the past 100 years was good or bad

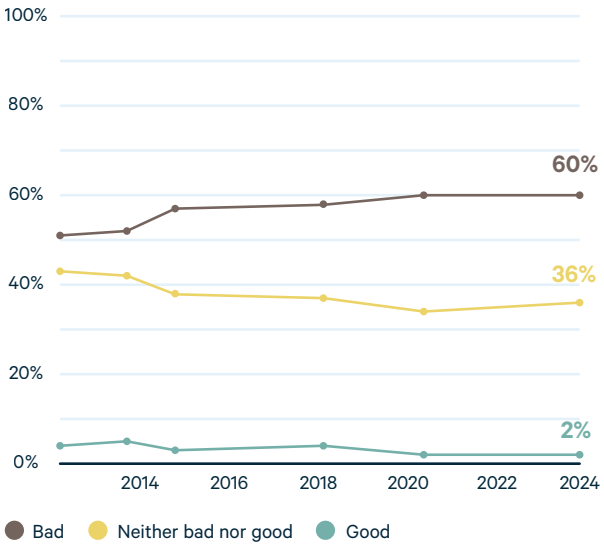
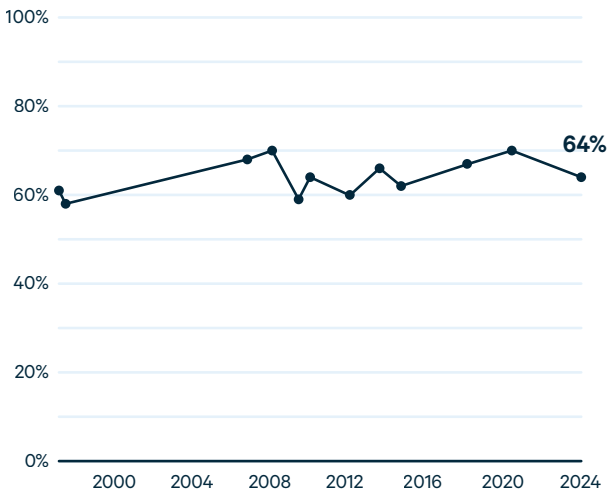


Figure 7. Percentage of Americans who believe a 5°F global temperature increase in 75 years would be "bad"



In 2024, 76 percent of Americans believe that global warming will be a very or somewhat serious problem for the United States in the future if nothing is done to reduce it, slightly down from the all-time high of 83 percent in 2006 (Figure 8). More Americans believe that global warming will be a very or somewhat serious problem for the world if nothing is done to stop it: 81 percent in 2024, also down slightly from the all-time high of 85 percent in 2006 (Figure 8).

76% **of Americans believe that global warming will be a very or somewhat serious problem for the United States if nothing is done.**

In 2024, only 55 percent of Americans believe that global warming will hurt them at least a moderate amount, down from the all-time high of 63 percent observed in 2010 (Figure 9).

Consistent with the notion that people expect the effects of warming to appear gradually over coming decades, a greater proportion of people believe that warming will affect future generations more than it will affect them personally. In 2024, 77 percent of respondents expect warming to hurt future generations at least a moderate amount, slightly down from the observed highs of 80 percent in 2010 and 2013 (Figure 9).

More people believe that warming will affect future generations more than it will affect them personally.

Figure 8. Percentage of Americans who believe global warming will be a very or somewhat serious problem for the United States or the world

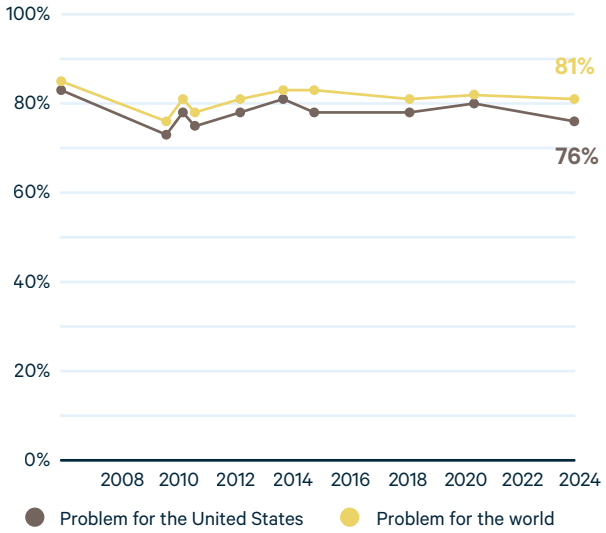
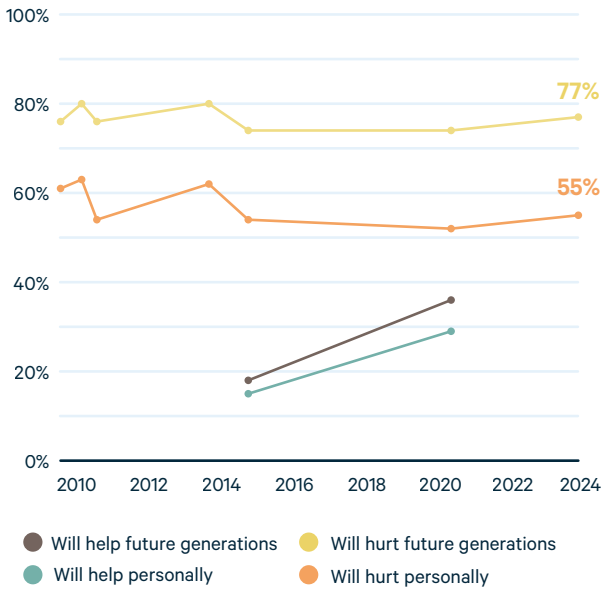


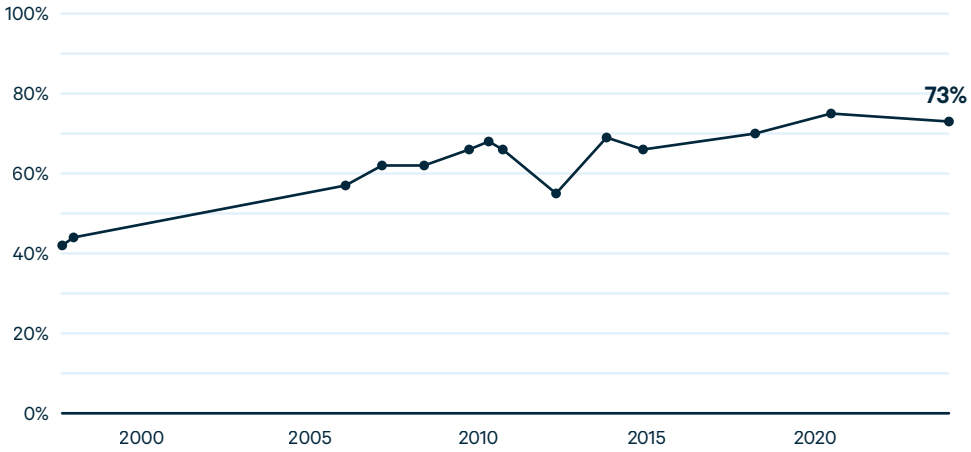
Figure 9. Percentage of Americans who think that global warming will hurt/help future generations or hurt/help them personally at least a moderate amount



Issue Engagement

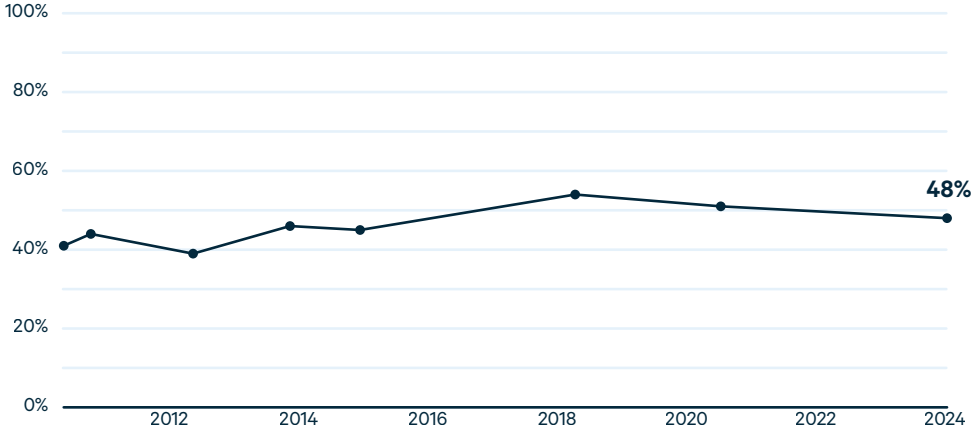
From 1997 to 2024, Americans believe they have become more and more knowledgeable about global warming. In 1997, 42 percent of respondents said they knew at least a moderate amount about the issue; that figure rose to 73 percent in 2024 (Figure 10).

Figure 10. Percentage of Americans who feel they know at least a moderate amount about global warming



One indicator of the crystallization and, consequently, the impact of people's opinions on an issue, is the strength with which people say they hold those opinions. The proportion of people who said their opinions on global warming were extremely or very strong is 48 percent in 2024, up from 41 percent in 2010, but down slightly (though not statistically significantly) from 51 percent in 2020 (Figure 11).

Figure 11. Percentage of Americans who have very or extremely strong opinions on global warming

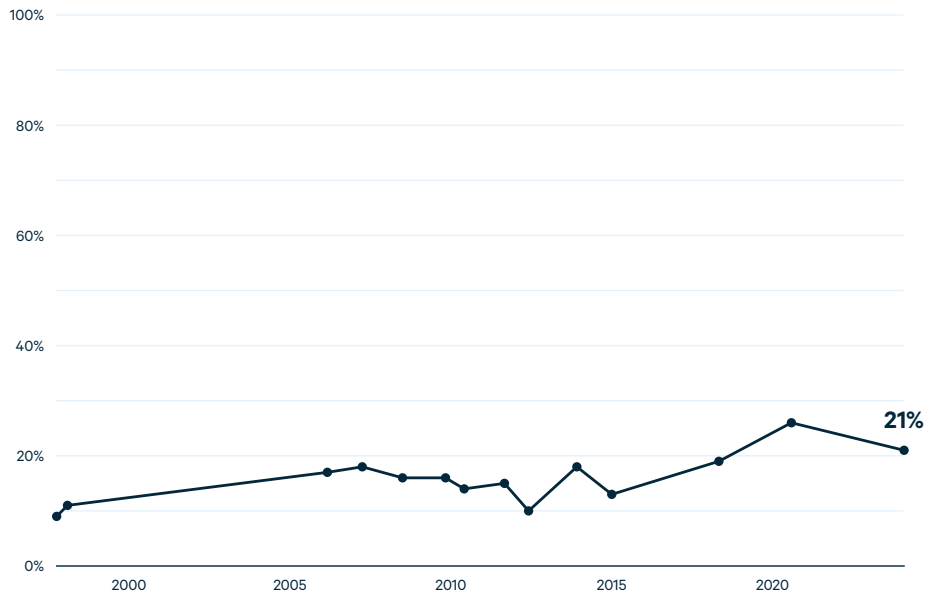


73% **of Americans say they know at least a moderate amount about climate change.**

For most policy issues, there is a small group of people known as the "issue public" who consider the matter to be of great personal importance (Krosnick 1990). These are the people who pay careful attention to news on the subject, think and talk a lot about it, and give money to lobbying groups to influence policy. In 2024, the global warming issue public makes up a near all-time high of 21 percent of Americans, up from 9 percent in 1997 and down a bit (though not statistically significantly) from 26 percent in 2020 (Figure 12), showing that a growing body of people care deeply about climate change and may be likely to cast their votes based on candidates' climate policy platforms.

"...a growing body of people care deeply about climate change and may be likely to cast their votes based on candidates' climate policy platforms."

Figure 12. Percentage of Americans who think global warming is extremely personally important (the global warming "issue public")



Desired Effort to Deal with Global Warming

In 2024, 78 percent of respondents want the US government to do at least a moderate amount about global warming (Figure 13).

The proportions of respondents who want governments in other countries and US businesses to do at least a moderate amount to deal with climate change are similar (80 percent and 78 percent, respectively) (Figure 13).

The proportions of people who desire at least a moderate amount of effort from the federal government, foreign governments, and US businesses are slightly lower (though not statistically significantly) than they were in 2020: 82 percent, 84 percent, and 83 percent, respectively.

The proportion of Americans who want "average people" to do at least a moderate amount about global warming is 74 percent in 2024, a statistically significant decrease from 82 percent in 2020 (figure 13).

Figure 13. Percentage of Americans who believe governments, businesses, or average people should do "at least a moderate amount" to deal with global warming

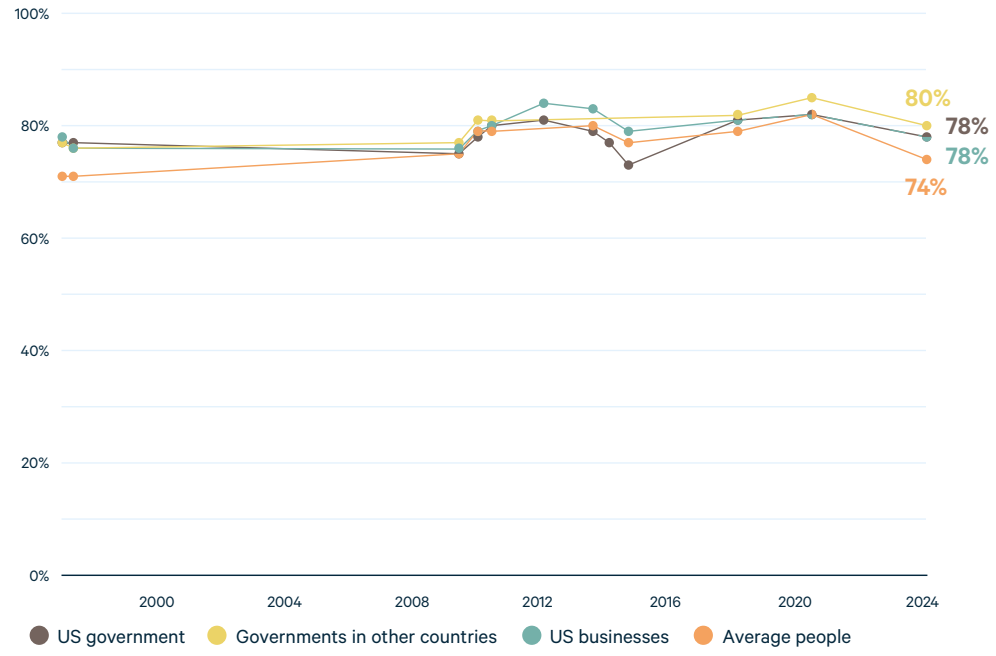
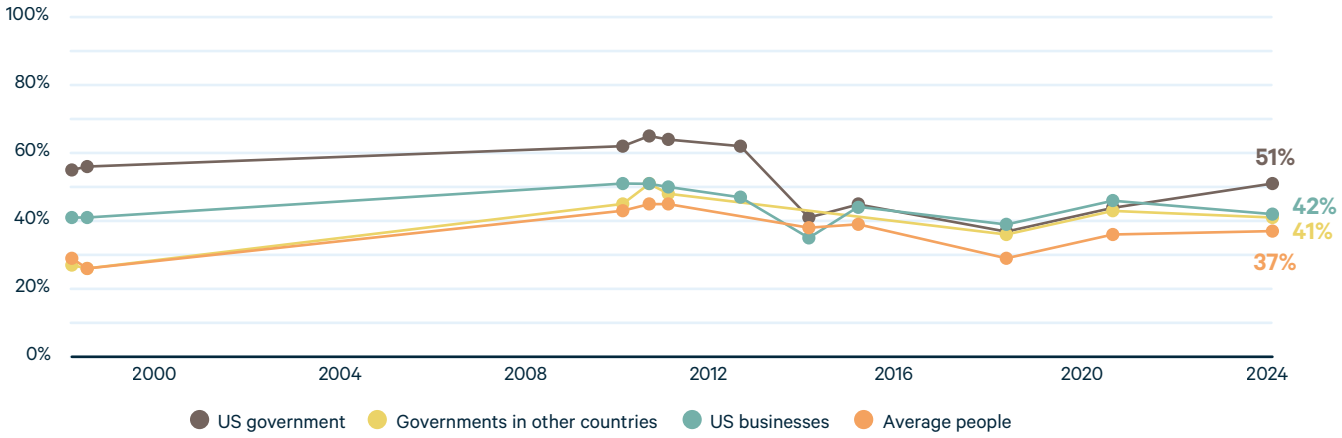


Figure 14. Percentage of Americans who believe that governments, businesses, or average people are currently doing at least a moderate amount to deal with global warming



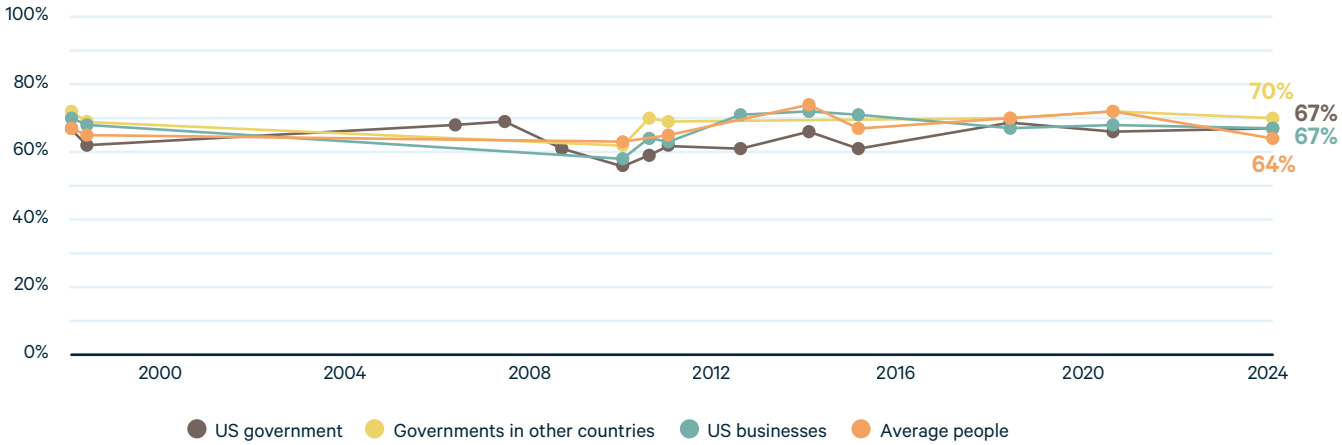
Whereas 74–80 percent of people want governments, businesses, and people to do at least a moderate amount to deal with climate change, fewer believe that these groups are actually doing that much—51 percent said so about the federal government, 41 percent said so about foreign governments, 42 percent said so about US businesses, and 37 percent said so about average people (Figure 14).

Between the Inflation Reduction Act, the CHIPS and Science Act, rejoining the Paris Agreement, federal regulations on power plant emissions, and other policy moves, the Biden administration has vocally placed climate change in a more central policy position than many if not all previous administrations. Americans seem to recognize this: in 2020, 44 percent of Americans said the federal government was doing at least a moderate amount on climate change, whereas 51 percent of Americans do now, a marginally statistically significant difference.

Most people want more action on climate change from each of the four groups mentioned. The proportions of people who want the US government, governments in other countries, and businesses to do more to deal with climate change are 67 percent, 70 percent, and 67 percent, respectively (Figure 15).

The desire for increased effort remains about what it was in 2020 (66 percent, 72 percent, and 68 percent, respectively). In 2024, 64 percent of respondents want average people to do more to deal with climate change, a statistically significant decline of 8 percentage points from 72 percent in 2020 (Figure 15).

Figure 15. Percentage of Americans who believe that governments, businesses, or average people should do more to deal with global warming



Personal Observations of Recent Weather

When asked in 2024 whether they had observed any effects of global warming, 73 percent of respondents said they had—about the same as in 2020 (75 percent) (Figure 16).

Global weather patterns

In 2024, 66 percent of respondents believe that weather patterns around the world have been more unstable over the last three years than before that, down from the 70 percent observed in 2006 and up from 62 percent observed in 2020 (Figure 17).

Global temperatures

In 2024, 62 percent of respondents believe that world temperatures have been higher during the past three years than before— higher than the 56 percent observed in 1997 and down slightly from the 64 percent observed in 2020 (Figure 17).

Figure 16. Percentage of Americans who believe that they have seen effects of global warming

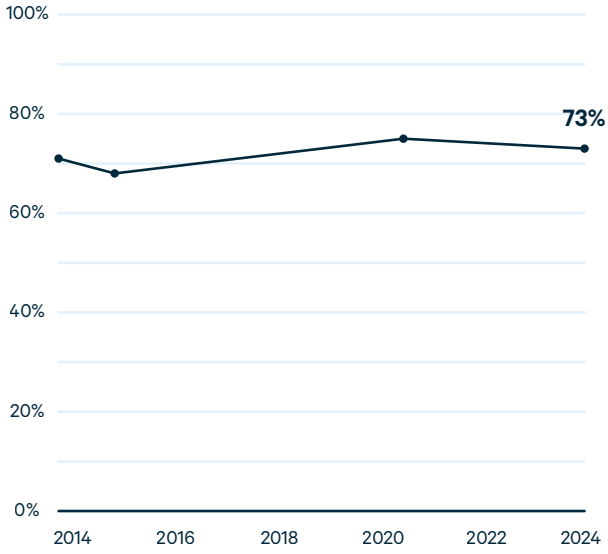
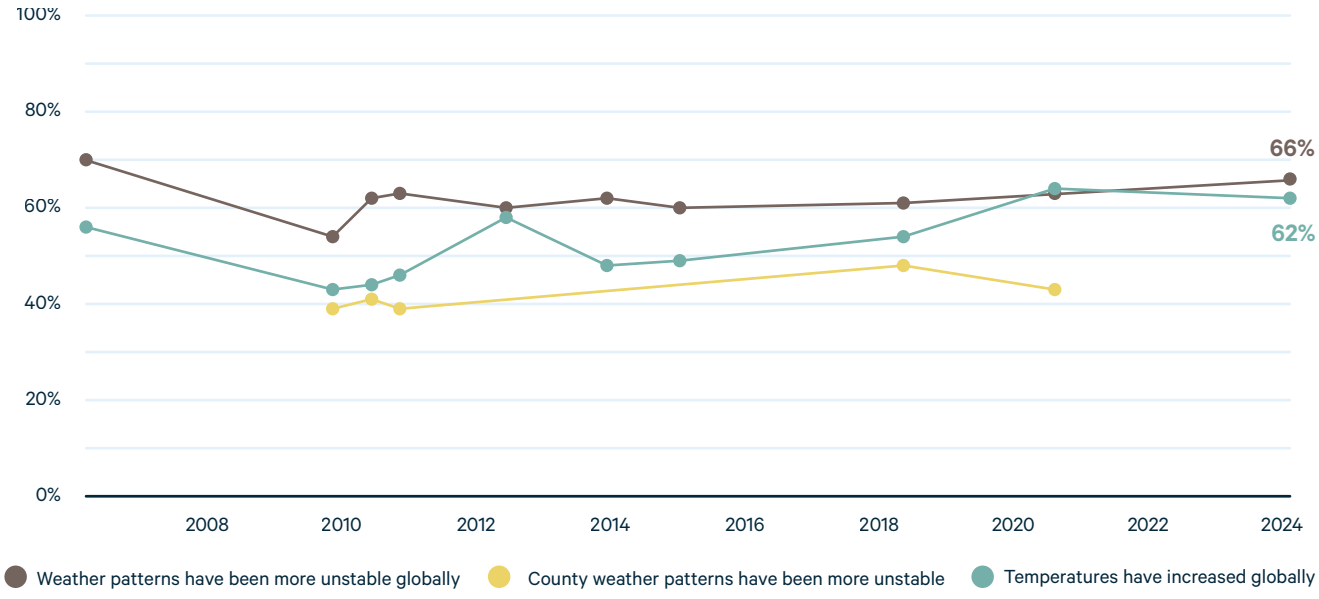


Figure 17. Percentage of Americans who think weather patterns have been more unstable or world temperatures have increased more over the last three years than before that



73% of respondents say they have observed the effects of climate change.

Sources of Electricity

In 2024, we asked respondents to evaluate various ways to generate electricity. These questions were also asked in 2013.

Sources favored by majorities of Americans

- **Sunlight:** In 2024, an overwhelming majority of Americans, 83 percent, believe that it is a good idea to make electricity from sunlight. This is a statistically significant decrease of 8 percentage points from the 91 percent observed in 2013.

- **Hydropower:** In 2024, 80 percent of Americans believe that it is a good idea to make electricity from naturally flowing water, down slightly from the 83 percent observed in 2013 but not a statistically significant decrease.

- **Wind:** In 2024, 70 percent of Americans believe that it is a good idea to make electricity from wind. This is a statistically significant decline of 14 percentage points from 84 percent in 2013.

Sources favored by fewer than 50 percent of Americans

- **Coal:** In 2024, only 18 percent of Americans believe that it is a good idea to make electricity from coal, down slightly from 21 percent in 2013 but not a statistically significant decrease.

- **Natural gas:** Only 38 percent of Americans believe that making electricity from natural gas is a good idea. This is a statistically significant decrease of 10 percentage points from 48 percent in 2013.

- **Nuclear power:** 44 percent of Americans favor making electricity from nuclear power. This is a statistically significant increase of 11 percentage points from 33 percent in 2013.

Trust in and Agreement among Environmental Scientists

In 2024, 67 percent of respondents trust what scientists say about the environment at least a moderate amount—a statistically significant decrease from the 75 percent observed in 2020 (Figure 18).

Perceptions of agreement among climate scientists have been increasing steadily since 2010. In 2024, 68 percent of respondents said that more than half of climate scientists believe that the planet has been warming, similar to 69 percent in 2020 and up from 58 percent in 2010 (Figure 19).

Some scholars have proposed that perceptions of agreement among climate scientists is a "gateway belief," meaning that convincing the public of near consensus among scientists will cause the public to adopt the conclusions reached by those scientists (van der Linden et al. 2019).

If this were the case, we would expect to have seen increases in the public's endorsement of the existence and threat of climate change. But our results document no such notable increases over time, adding further disconfirmatory evidence to the literature on this matter (Kahan 2017).

Figure 18. Percentage of Americans who trust what scientists say about the environment at least a moderate amount

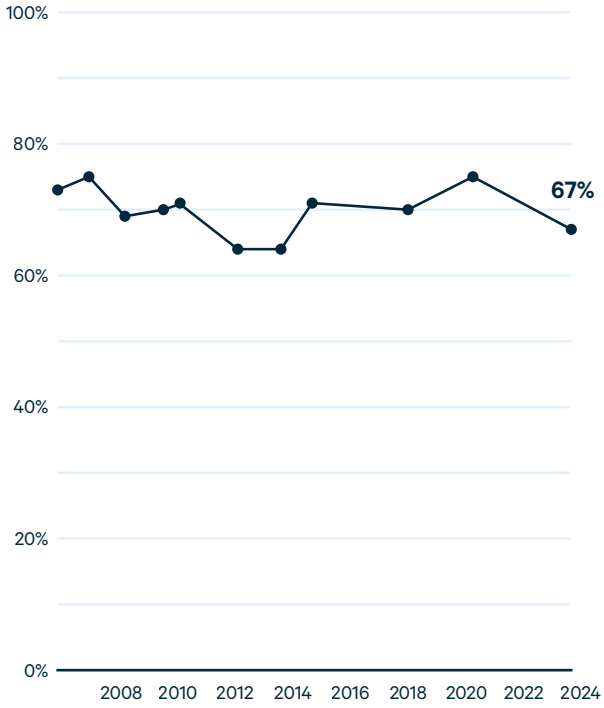
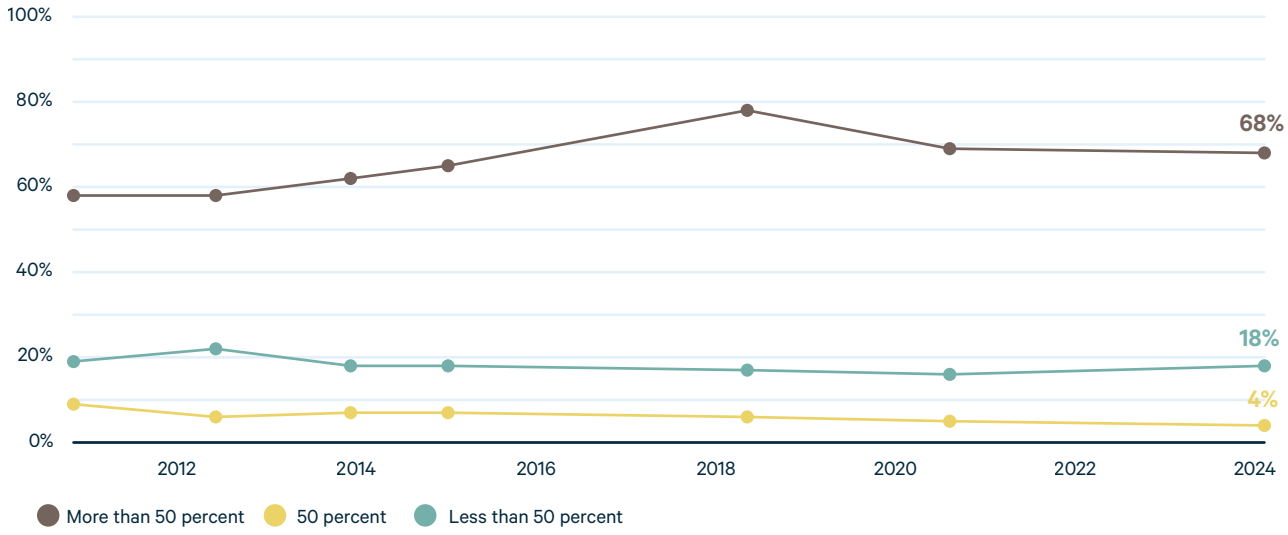


Figure 19. Percentage of Americans who believe that more than, less than, or exactly 50 percent of climate scientists believe that global warming has been happening



Conclusion

The results from this survey demonstrate that, despite numerous efforts over the past 27 years to inform public opinion, Americans' views on climate change have remained remarkably steady. This finding is consistent with the findings reported by Page and Shapiro in their landmark book, *The Rational Public* (1992). These researchers showed that, for numerous important issues in American politics, public opinion has changed extraordinarily slowly through the decades—if at all. As we see here, attitudes toward climate change have the same inertia.

As in 1997, the 2024 survey results show considerable and sometimes huge majorities expressing what might be called "green" views on climate change and related issues. This is the sort of public opinion that policymakers hope for, so that they can move forward with policymaking with the support of a large swath of their constituents. Not only does a majority of Americans believe that something should be done about climate change—by the federal government, world leaders, businesses, and individuals—but there is also widespread endorsement of some policy approaches to reducing future warming and coping with its likely effects, as we will outline in a subsequent report based on this survey.

Although the major theme of this new survey is consistency of public opinion over time, we did observe some small but statistically significant changes. Americans perceive the Biden administration to be doing more about climate change than they perceived the federal government to be doing at the end of the Trump administration. This seems likely to be in recognition of the climate change provisions including in legislation passed during the Biden administration, such as the Inflation Reduction Act, the Infrastructure Investment and Jobs Act, the American Rescue Plan, and the CHIPS and Science Act; as well as rejoining the Paris Agreement, and other climate-forward actions taken by the federal government.

Interestingly, the proportion of Americans who believe that the earth has been warming is slightly and statistically significantly lower now than it was four years ago (75 percent versus 83 percent). This might seem to be surprising, because 2023 was the warmest year on record (Lindsey and Dahlman 2024), and some evidence has suggested that people who do not trust climate scientists rely on average world temperature when deciding whether the earth has been warming (MacInnis and Krosnick 2016).

The proportion of Americans who want average people to do at least a moderate amount about the issue has declined significantly (82 percent versus 74 percent) but remains a large majority. We continue to see public engagement with the issue of climate change. Americans believe that they know more about this issue than they used to and are more certain of their opinions than in the past. And strikingly, the proportion of Americans who consider the issue to be extremely important to them personally remains relatively high compared to the sizes of passionate "issue publics" on other issues.

Furthermore, the results here refute the theory that perceptions of agreement among climate scientists about the existence of global warming are important determinants of public attitudes and beliefs. Despite public perceptions of scientific agreement having risen, no comparable increases were observed in people's personal opinions on the issue.

References

Bergquist, M., A. Nilsson, and P.W. Schultz. 2019. Experiencing a severe weather event increases concern about climate change. *Frontier in Psychology* 10: Article 220.

Evensen, D., L. Whitmarsh, P. Bartie, P. Devine-Wright, J. Dickie, A. Varley, S. Ryder, and A. Mayer. 2021. Effect of "finite pool of worry" and COVID-19 on UK climate change perceptions. PNAS 118: e2018936118.

Gregersen, T., R. Doran, G. Bohm, and B. Sætrevik. 2022. Did concern about COVID-19 drain from a 'finite pool of worry' for climate change? Results from longitudinal panel data. *The Journal of Climate Change and Health* 8: Article 100144, **https://doi.org/10.1016/j.joclim.2022.100144**.

Hornsey, M.J., E.A. Harris, P.G. Bain, and K.S. Fielding. 2016. Meta-analysis of the determinants and outcomes of belief in climate change. *Nature Climate Change* 6:622–626. **https://doi.org/10.1038/nclimate2943**.

Howe, P.D. 2021. Extreme weather experience and climate change opinion. *Current Opinion in Behavioral Sciences* 42: 127-131. **https://doi.org/10.1016/j.cobeha.2021.05.005**.

Kahan, D. 2017. The "gateway belief" illusion: Reanalyzing the results of a scientific-consensus messaging study. *Journal of Science Communication* 16: 1–20.

Konisky D.M, L. Hughes, and C.H. Kaylor. 2015. Extreme weather events and climate change concern. *Climatic Change* 134(4): 533–547. **https://doi.org/10.1007/s10584-015-1555-3**.

Krosnick, J. A. and B. MacInnis. 2020. Climate insights 2020: Overall trends. Washington, DC: Resources for the Future. **https://www.rff.org/publications/reports/climateinsights2020/**.

Krosnick, J.A. 1990. Government policy and citizen passion: A study of issues in contemporary America. *Political Behavior*, 12(1): 59–92. **https://doi.org/10.1007/BF00992332**.

Lewandowsky, S., J.S. Risbey, and N. Oreskes. 2016 The "pause" in global warming. Turning a routine fluctuation into a problem for science. *Bulletin of the American Meteorological Society* 97(5): 723–733. **https://doi.org/10.1175/BAMS-D-14-00106.1**.

Lindsey, R., and L. Dahlman. 2024. Climate change: Global temperature." Climate.gov, January 18. **https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature**.

MacInnis, B., and J.A. Krosnick. 2016. Trust in scientists' statements about the environment and American public opinion on global warming. In *Political Psychology: New Explorations*, edited by J.A. Krosnick, I-C.A. Chiang, and T.H. Stark, 483–522. New York: Routledge/Taylor & Francis Group

Marasco, A., A. Romano, and C. Sotis. 2023. Interactions between concerns for the environment and other sources of concern in 31 European countries. *Environmental Research Letters* 18: 014018. **https://doi.org/10.1088/1748-9326/aca6fd**.

Maslow, A H. 1943. A Theory of Human Motivation. *Psychological Review* 50(4): 370–96. **https://psycnet.apa.org/doi/10.1037/h0054346**.

Maslow, A.H. 1954. *Motivation and Personality*. New York: Harper and Row.

Page, B.I, and R.Y. Shapiro. 1982. *The Rational Public: Fifty Years of Trends in Americans' Policy Preferences*. Chicago: University of Chicago Press.

Sisco, M.R. 2021. The effects of weather experiences on climate change attitudes and behaviors. *Current Opinion in Environmental Sustainability* 52: 111–7. **https://doi.org/10.1016/j.cosust.2021.09.001**.

Sisco, M.R., S.M. Constantino, Y. Gao, M. Tavoni, A.D. Cooperman, V. Bosetti, and E.U. Weber. 2023. Examining evidence for the finite pool of worry and finite pool of attention hypotheses. *Global Environmental Change* 78: 102622.

Smirnov, O, and P.H. Hsieh. 2022. COVID-19, climate change, and the finite pool of worry in 2019-2021 Twitter discussion. *PNAS* 119(43): e2210988119.

Stefkovics, A. and O. Hortay. 2022 Fear of COVID-19 reinforces climate change beliefs. Evidence from 28 European countries. *Environmental Science and Policy* 136: 717–25.

van der Linden, S. 2015. The social-psychological determinants of climate change risk perceptions: Towards a comprehensive model. *Journal of Environmental Psychology* 41: 112–24. **https://doi.org/10.1016/j.jenvp.2014.11.012**.

Van der Linden, S., A. Leiserowitz, A., and E. Maibach. 2019. The gateway belief model: A large-scale replication. *Journal of Environmental Psychology* 62: 49–58.

Villar, A. and J.A. Krosnick. 2010. Global warming vs. climate change, taxes vs. prices: Does word choice matter? *Climatic Change* 105(1–2):1–12. **https://doi.org/10.1007/s10584-010-9882-x**.

Visconti, G. and K. Young, K. 2024. The effect of different extreme weather events on attitudes toward climate change. *PLoS ONE* 19(5): e0300967. *https://doi.org/10.1371/journal.pone.0300967*.

Weber, E.U. 2006. Experience-based and description-based perceptions of long-term risk: Why global warming does not scare us (yet). *Climatic Change* 70: 103–20.

Weber, E.U. 2015. Climate change demands behavioral change: What are the challenges? *Social Research* 82 (3): 561–80.