Household Disaster Preparedness and Mitigation in the Age of Climate Chage

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Abstract

Disasters are increasing in frequency and severity due to climate change. To what extent does the public see a connection between these disasters and climate change and does this impact preparedness and mitigation actions? Data from both national surveys and surveys of California residents living in the wildland urban interface (WUI) find that personally experiencing natural disasters and extreme weather is correlated with climate change fears, such as the belief that climate change is causing more frequent and severe hurricanes, droughts, floods, and wildfires. However, personal experience is filtered through media usage habits, ideology, and partisanship. Further, greater concern over climate change increases the likelihood of engaging in disaster preparedness and mitigation. With respect to wildfires, barriers to engaging in mitigation efforts include lack of knowledge of what to do, cost of mitigation measures, and not knowing where to find resources. Among those who have taken action, the most common measures include maintaining a defensible space, keeping a fire extinguisher and other tools available, and creation of fire-resistant zones using building materials and landscaping. The need for preparedness and mitigation has become more urgent, with the United States experiencing a growing number of deadly, billion-dollar disasters from the changing climate. In 2024 alone, there were 27 such disasters, with 586 fatalities. Because more than half of those who have not engaged in mitigation point to a lack of knowledge or ability to find resources, public education and outreach play an important role in improving household preparedness and mitigation.

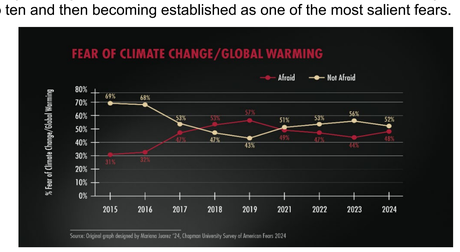
Data & Methods

Data are from The Chapman University Survey of American Fears, a nationally representative survey that utilizes a probability-based method. The survey has been conducted annually since 2014.

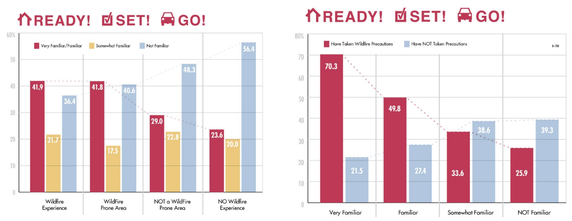
Additionally, I draw upon two online surveys of California residents (n=660 and n=1,095), that asked about experience with wildfires, mitigation, and familiarity with Ready, Set, Go!

Climate Change Fears

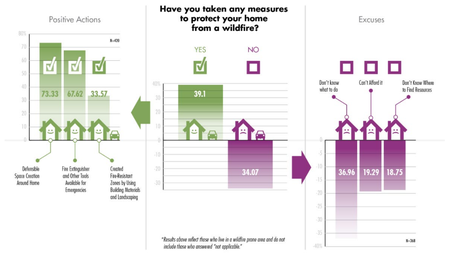
The American public is narrowly divided on climate fears. Nearly half of respondents (48 percent) said they were afraid or very afraid of the effects of climate change this year. Climate fear has also been consistent in recent years, deviating very little since 2021, when 49 percent of Americans responded they were afraid or very afraid. The current stability of these sentiments comes after a trend in which fear of climate change increased sharply over several years. The ten-year time series of public opinion data collected by the Chapman Survey of American Fears shows that climate change emerged as one of the most feared public problems, breaking into the top ten and then becoming established as one of the most salient fears.



Wildfire Preparedness and Mitigation



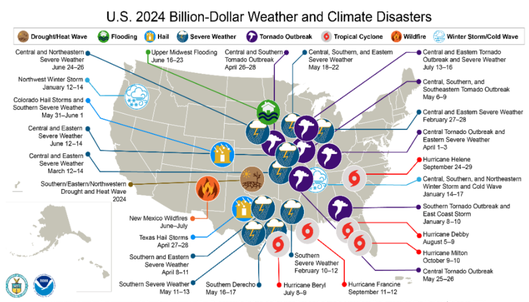
Actions taken to prepare homes for wildfires vs. reasons for inaction



Disasters Fueled by Climate Change

Climate change drives extreme weather and disasters, including floods, hurricanes, heat waves, droughts, and wildfires. The scientific consensus is clear and the cost in lives and dollars is growing. Not only are disasters more frequent, but an increasing number of people are impacted, as populations grow in coastal areas and the wildland-urban interface (WUI).

Although scientists have long recognized the link between climate change and disasters, attributing the impact of climate to individual disasters was harder to demonstrate. However, attribution science has made many advances. Scientists are increasingly able to quantify the role climate played in disasters, making clear the dangers of a warming planet.



Media Coverage of Disasters and Climate Change

Although scientists recognize the link between climate change and disasters, the link is less clear to the public. This is due to a concerted effort by oil companies and fossil fuel related business interests who have spent decades engaging in aggressive lobbying and public disinformation campaigns. They are aided in this goal by conservative media outlets that amplify climate change denial and give deniers a platform.

In 2023, hundreds of wildfires raging across Canada led the United States to experience its worst ever air pollution due to wildfire smoke. Millions of Americans could see and smell the smoke, and emergency room visits due to asthma and other serious conditions skyrocketed. Yet, on conservative cable news shows, the historic pollution was deemed, “not a health risk.” Nor could the massive wildfires and resulting smoke be attributed to climate change, as Fox viewers were told, “This has got nothing to do with climate. This is wildfire smoke. This is natural. This is not because of climate change. This is not because of fossil fuels.” On Newsmax, the pollution was described as having, “…a beautiful, interesting aura.”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PLAYING DUMB

RIGHT-WING MEDIA IS SAYING THE WILDFIRE SMOKE IS GOOD, ACTUALLY

Conservatives are doing everything they can to convince Americans the hazardous air quality has nothing to do with climate change

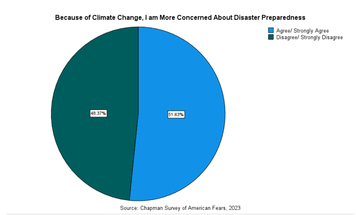
By RYAN BORT
JUNE 8, 2023

A traffic officer wears an N95 mask in Times Square amid a smoky haze from wildfires in Canada on June 7, 2023 in New York City.

DAVID DEE DELGADO/GETTY IMAGES

Climate Change Fears and Preparedness

Just over half of all Americans (51.6%) are more concerned with disaster preparedness because of climate change. The need for preparedness and mitigation has become more urgent, with the United States experiencing a growing number of deadly, billion-dollar disasters from the changing climate.



Predictors of Climate Fears

Table 1 Fear of Climate Change and Climate Driven Disasters

Summary of OLS Regression Analyses for Variables Predicting Fear of Climate Change and Climate Change Causing more Frequent and Severe Disasters

	Model 1			Model 2		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Party	.177	.016	.350***	.271	.031	.284***
Fox News	.028	.016	.056	.171	.031	.180***
CNN	-.088	.023	-.150***	-.153	.044	-.139***
MSNBC	-.030	.023	-.049	-.081	.044	-.081*
Impacted	-.143	.029	-.139**	-.266	.054	-.137***
Education	-.018	.014	-.037	.029	.026	.032
Age	-.115	.024	-.137***	-.128	.045	-.081*
Gender	-.129	.049	-.073**	-.183	.093	-.055*
Constant	1.449	.178		3.188	.171	
R^2	.270			.265		
Adjusted R^2	.264			.259		

*$p < .05$. **$p < .01$. *** $< .001$

Model 1 Climate Fears
Two-item index (Cronbach’s α=.848)
- How afraid are you of the following: Global warming and climate change?
- How afraid are you of the following events: Climate change impacting where I live?

Model 2 Climate Driven Disaster Fears
4-item index (Cronbach’s α=.96)
- Please indicate your level of agreement with the following statements: Climate change is causing more frequent and severe wildfires/droughts/hurricanes/ floods

Interpretation
In model 1, partisanship exerts the strongest influence on the dependent variable, with Republicans being less fearful. This is followed by CNN viewers who are more fearful. Experiencing a disaster is third in terms of the size of the standardized coefficient, with and it increases fears. Finally, women and younger respondents are more fearful.

In model 2, we see partisanship has an outsized influence, followed by Fox News, with Republicans and Fox news viewers disagreeing that climate change is causing for frequent and severe disasters. Next, we see CNN followed closely personal experience leading to stronger belief in the connection between climate change and disasters or extreme weather. Age, gender and MSNBC viewing also had a small, but statistically significant impact on the dependent variable.

Both models show the central role that partisanship and media usage habits play in climate change beliefs, even when controlling personal experience with disasters and demographic factors. Partisanship overshadowed the other independent variables in both models, pointing to the power of the climate change denial campaign to make people question what they’ve seen with their own eyes.

Acknowledgements

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