

Climate change is making Americans anxious. Insurers can help.

Nancy Watkins, FCAS, MAAA
Elias Braunstein



Today more than ever, consumers are aware of the earth's changing climate. This is especially true as they experience extreme weather events such as floods, hurricanes, and wildfires, or witness the devastation of these events on social media and the news. In fact, according to a December 2018 report by Yale and George Mason Universities, a record number of Americans believe that global warming is real, and are increasingly worried about its effect on their lives (see sidebar on page 3).¹

As the impact of extreme weather on communities increases, consumers are turning to media and the internet to learn how to protect their families, homes, and property. Insurers can play an active role in educating these consumers, mitigating the risks of such events, and helping our country build a successful climate resilience strategy.

Extreme weather events are having a greater impact on people

In November 2018, the United States government released its fourth National Climate Assessment, which found that the earth's climate is changing faster than at any point in modern civilization and that not only is this impact already being felt in U.S. communities, but it is also predicted to intensify.² For instance, using high-resolution climate simulations of 15 tropical cyclones—including Hurricanes Katrina, Irma, and Maria—researchers found that future global warming could boost hurricane rainfall by a third.³ In fact, of the U.S. storms with the most rainfall in the past 70 years, the top three have occurred since 2016.⁴ This can be particularly destructive when paired with residential growth in high-hazard areas, and a lack of mitigation or resiliency strategies.

¹ Leiserowitz, A., Maibach, E., Rosenthal, S., Kotcher, J., Ballew, M., Goldberg, M., & Gustafson, A. (2018). Climate change in the American mind: December 2018. Yale University and George Mason University. New Haven, CT: Yale Program on Climate Change Communication. Retrieved on March 13, 2019, from <http://climatecommunication.yale.edu/publications/climate-change-in-the-american-mind-december-2018/>

² U.S. Global Change Research Program, Fourth National Climate Assessment, Volume II: Impacts, Risks, and Adaptation in the United States. Retrieved on April 3, 2019, from <https://nca2018.globalchange.gov/>

³ Millman, Oliver. "Climate change is making hurricanes even more destructive, research finds." The Guardian, November 14, 2018. Retrieved on March 13, 2019, from <https://www.theguardian.com/environment/2018/nov/14/climate-change-hurricanes-study-global-warming>

⁴ Borenstein, Seth. "Florence is nation's second-wettest storm, behind Harvey." Associated Press, September 25, 2018. Retrieved on March 25, 2019, from <https://apnews.com/3ce363b1eb4d4243b0e7b2d994fd7249>

Further, warming temperatures and rising seas have been linked to increased high-tide flooding, causing significant economic losses in coastal communities across the United States. According to the National Oceanic and Atmospheric Administration (NOAA), U.S. high-tide flooding has on average doubled over the last 30 years.⁵ And in March, NOAA scientists issued a warning that large parts of the U.S. may experience an "unprecedented" flood season in 2019, with 200 million people in 25 states at risk.⁶

On the other end of the spectrum, climate change is also increasing fears associated with drought, particularly in western states. Though wildfires have long been a fact of life in California, the typical wildfire season in the western United States has stretched by about two and a half months since 1970, largely due to rising temperatures, earlier snowmelt, and the resulting drier conditions.⁷ A 2016 study found that, since 1984, climate change has doubled the amount of land susceptible to forest fires in western states compared to what might otherwise have been expected.⁸

California's wildfire season over the past few years is a prime example of the way in which the warming climate, combined with community development, contributes to these fires increasing in size and intensity. According to the California Department of Fire and Forestry Protection (Cal Fire), 10 of California's 20 most destructive wildfires have occurred in just the last four years, destroying over 34,000 structures and causing 144 deaths in the period September 2015 through November 2018.⁹ As Milliman has written about previously, wildfire risk is exacerbated by environmental conditions such as drought and climate change, and by human factors such as urban development and power grid maintenance. In 1964, for

⁵ National Ocean Service, NOAA. "What is high tide flooding?" Last updated June 25, 2018. Retrieved on April 3, 2019, from <https://oceanservice.noaa.gov/facts/nuisance-flooding.html>

⁶ Leung, Hillary. "'Unprecedented' Spring Flood Season to Put 200 Million People in the U.S. at Risk, NOAA Warns." Time. March 22, 2019. Retrieved on April 8, 2019, from <http://time.com/5556563/unprecedented-flooding-spring-outlook-noaa/>

⁷ WXshift. Climate Indicators: U.S. Wildfires. Retrieved April 3, 2019, from <http://wxshift.com/climate-change/climate-indicators/us-wildfires>

⁸ Abatzoglou, John T. and A. Park Williams. "Impact of anthropogenic climate change on wildfire across western US forests." PNAS, October 18, 2016. Retrieved April 3, 2019, from <https://www.pnas.org/content/113/42/11770.full>

⁹ Cal Fire. Top 20 Most Destructive Wildfires, March 14, 2019. Retrieved on April 3, 2019 from http://www.fire.ca.gov/communications/downloads/fact_sheets/Top20_Destruction.pdf. This statistic is based on total structures destroyed, including homes, businesses, and other buildings.

instance, the Hanly Fire burned through a sparsely populated area in northern California, destroying only a few dozen homes.¹⁰ Compare that to the 2017 Tubbs Fire, which followed a similar footprint as the Hanly Fire, but destroyed thousands of homes in the now densely populated Fountaingrove area of Santa Rosa.

Consumers are increasingly concerned about protecting their property

As extreme weather-related events become more destructive, public awareness of – and concern regarding – climate change is growing, thanks in part to the spread of information via social media and TV news. According to one study of Twitter posts from 2008 to 2014, researchers noticed an uptick in tweets referencing the climate in the aftermath of severe weather events.¹¹ Furthermore, recent extreme weather events are not isolated to one geographic area – from hurricanes along the Atlantic, mid-Atlantic, and Gulf regions, to wildfires in the West and flooding in the Midwest and central plains, climate change is being felt across the entire country. In fact, according to the Yale / George Mason survey, about half or more Americans believe they (49%), their family (56%), and/or people in their community (57%) will be harmed by global warming.¹²

But while they may recognize this risk, many consumers don't yet fully understand what they can do to protect their property from a flood, wildfire, or other catastrophic event. For example, Milliman research shows that between 50% and 80% of losses arising from recent windstorms and floods —including Hurricanes Matthew, Harvey, Irma, Maria, Florence and Michael — were not covered by insurance.¹³ Further, the consumer advocacy group United Policyholders surveyed residents affected by past wildfires in Colorado, Texas, and California and consistently found that over half were underinsured when it came to covering the cost of repairing, replacing, or rebuilding their homes.¹⁴

One effect of the growing awareness of and discussion regarding climate change is that extreme weather events tend to drive consumers to inform themselves about insurance options. A Milliman analysis of data from Google Trends going back to 2004 found that searches for “flood insurance” in the United States have

shown a relative constant baseline, with only two spikes. The first was in September 2005 after Hurricane Katrina when search levels reached 100 (meaning peak popularity for the search term). The second was in September 2017 when search levels reached 97 in the aftermath of Hurricanes Harvey and Irma.¹⁵ Furthermore, in Florida, Texas, and New York, Google Trends shows increased search interest for the terms “private flood insurance” from 2016 to the present, with relative interest peaking in September 2017, around the time of Hurricanes Harvey and Irma.

Similarly, “fire insurance” and “home insurance” searches in California reached peak popularity in October 2017 at the end of the state's most devastating wildfire season (in terms of property damage); search levels for “fire insurance” also surged to 100 in November 2018 as the Camp Fire raged through Butte County.

Insurers can help address climate fears

While this increased interest in disaster insurance in the wake of extreme weather does tend to be temporary, insurers can take advantage of post-event surges (along with the record-high awareness of and concern about climate change) to engage more with the public about climate resilience. Climate resilience refers to individuals, businesses, and governments recognizing and planning for the influence of climate on specific hazards such as flood or wildfire.

For insurers, bolstering their online information on climate resilience, giving premium discounts for home and community mitigation actions that reduce losses, educating policyholders about their risk exposures, and keeping people informed about the future effect of climate change on their insurance premiums are some of the potential strategies companies might pursue. Increased transparency regarding and awareness of risk on the part of the consumer can add to public preparedness in the event of a weather event. On a larger scale, regulators, legislators, and community planners have a role in working with scientists, builders, and insurers to address the physical and financial risk of climate change and identify affordable options for lower-income households.

Through the increasing frequency of extreme weather events and the growing discussion on social media platforms, more and more Americans are aware of – and concerned about – the impact of climate change. As these consumers seek information regarding what they can do to protect themselves and their property from disaster, insurers with expertise and a financial stake in managing catastrophic risk must play a crucial role in education and preparedness, helping lead the country toward a more resilient future.

¹⁰ Hansen, J. (July 21, 2014). Park agencies, landowners gird for fire season (w/video). Santa Rosa Press Democrat. Retrieved November 27, 2018, from <https://www.pressdemocrat.com/news/state/2393494-181/park-agencies-landowners-gird-for>.

¹¹ Cody, Emily M., et al. "Climate Change Sentiment on Twitter: An Unsolicited Public Opinion Poll." *PloS One*, vol. 10, no. 8, 2015, pp. E0136092. Retrieved on March 25, 2019, from <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0136092&type=printable>

¹² Leiserowitz, A., et. al.

¹³ AON and NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2019). Retrieved on April 12, 2019, from www.ncdc.noaa.gov/billions

¹⁴ United Policyholders Data Collection Surveys. Retrieved on April 11, 2019, from <https://www.uphelp.org/data-collection-surveys#2011%20Central%20Texas%20Wildfire>

¹⁵ Google Trends numbers represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is peak popularity for the term. A value of 50 means that the term is half as popular, while a score of zero means there was not enough data for this term.

CLIMATE CHANGE IN THE AMERICAN MIND

In December 2018, the Yale program on Climate Change Communication and the Center for Climate Change Communication at George Mason University issued a joint report entitled *Climate Change in the American Mind*.¹⁶ The report details findings from a nationally representative survey of over 1,100 adults in the U.S. who were asked to share their views on global warming. Excerpted key findings from the Executive Summary are below:

- Seven in 10 Americans (73%) think global warming is happening, an increase of 10 percentage points since March 2015. Only about one in seven Americans (14%) think global warming is not happening.
- About six in 10 Americans (62%) understand that global warming is mostly human-caused. By contrast, about one in four (23%) say it is due mostly to natural changes in the environment.
- More than half of Americans (57%) understand that most scientists agree that global warming is happening, the highest level since 2008. However, only one in five (20%) understand how strong the level of consensus among scientists is (i.e., that more than 90% of climate scientists have concluded that human-caused global warming is happening).
- About seven in 10 Americans (69%) say they are at least “somewhat worried” about global warming. About three in 10 (29%) are “very worried” about it – the highest level since the surveys began in 2008.
- Nearly half of Americans (46%) say they have personally experienced the effects of global warming, an increase of 15 percentage points since March 2015.
- About seven in 10 Americans (72%) say the issue of global warming is either “extremely,” “very,” or “somewhat” important to them personally, while only about three in 10 (28%) say it is either “not too” or “not at all” personally important. The proportion who say it is personally important has increased by 16 percentage points since March 2015 and by nine points since the previous survey in March 2018.
- More than half of Americans (56%) say they hear about global warming in the media at least once a month, an increase of 13 percentage points since the previous survey in March 2018.
- About two in three Americans (65%) think global warming is affecting weather in the United States, and three in 10 think weather is being affected “a lot” (32%). About half think global warming made the 2018 wildfires in the western U.S. (50%) and/or Hurricanes Florence and Michael (49%) worse.
- A majority of Americans are worried about harm from extreme events in their local area including extreme heat (61%), flooding (61%), droughts (58%), and/or water shortages (51%).

¹⁶ Leiserowitz, A., Maibach, E., Rosenthal, S., Kotcher, J., Ballew, M., Goldberg, M., & Gustafson, A. (2018). Climate change in the American mind: December 2018. Yale University and George Mason University. New Haven, CT: Yale Program on Climate Change Communication. Retrieved on March 13, 2019, from <http://climatecommunication.yale.edu/publications/climate-change-in-the-american-mind-december-2018/>



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CONTACT

Nancy Watkins
nancy.watkins@milliman.com

Elias Braunstein
elias.braunstein@milliman.com