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Extreme Weather and Property Insurance: Consumer Views

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Executive Summary

Homeowners face significant impacts to their property from escalating extreme weather amplified by potential climate impacts. As roughly 85% of homeowners have homeowners insurance,¹ the rising likelihood of extreme and catastrophic weather events makes monitoring the frequency and impact of natural disasters a critical insurance regulatory function. This makes climate change/natural catastrophe risk and resiliency a key strategic priority of the National Association of Insurance Commissioners (NAIC).

To help guide NAIC efforts in this domain (e.g., consumer outreach), this study sought to better understand how homeowners are making the connection between extreme weather events and their insurance coverage. Specifically, we looked at three main questions:

- 1) To what extent do respondents see a connection between extreme weather events and their broader insurance coverage?
- 2) What is the relationship between what respondents believe about extreme weather and what actions they have taken related to their homeowners insurance?
- 3) How are homeowners segmented by their climate risk perceptions, which further depend on loss experience and insurance coverage?

We surveyed 2,496 U.S. homeowners from age 18 to over 60 in every U.S. state and Washington, DC. Respondents were recruited through SurveyMonkey's Audience panel. The survey was conducted March 9–16, 2021.

Overall, we find that:

- Most homeowners in our survey do, in fact, have homeowners insurance, though respondents making less than \$25,000 a year were 13% less likely to have a policy than others with higher incomes. Affordability issues were the most prevalent factor indicated for not having coverage.

¹ NAIC Dwelling Fire, Homeowners Owner Occupied, and Homeowners Tenant and Condominium/Cooperative Unit Owner's Insurance Report (2018). Accessed May 8, 2021 at <https://content.naic.org/sites/default/files/publication-hmr-zu-homeowners-report.pdf>.

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NAIC

- A majority (56%) believe their homeowners policy covers flood, even though flood is not covered under standard policies and only about 4% of homeowners actually have flood insurance.
- Two-thirds of respondents said their homeowners insurance costs have gone up over the past three years, with “increase in natural disasters such as hurricanes and wildfires” indicated as a key reason believed to be driving the increase.
- People living in Pacific, West South Central and Middle Atlantic² states are most likely to report trouble getting or renewing homeowners insurance due to an increase in natural disasters. Across all premium levels, homeowners paying more for their insurance report increasingly higher levels of trouble renewing insurance because of wildfires or hurricanes.
- More than two-thirds of respondents said they were aware of things they could do to protect their property from extreme weather events to reduce their risk, but this awareness does not necessarily translate into action. Only half had actually made changes, though more than three-quarters said they would spend their own money to fortify their home in exchange for a reduction in their homeowners insurance premium.
- Four out of five homeowners expressed interest in knowing what insurance companies are doing to address changing weather patterns and other climate-related risks.
- Homeowners revealed conflicting attitudes about climate-related hazard risk. While many respondents indicated reluctance to move to areas with flooding, hurricanes or wildfires and 75% think extreme weather events are happening more frequently overall because of climate change, on average they believe the area where they live is slightly less vulnerable to extreme weather events than the U.S. average.
- Survey respondents demonstrated a high level of worry related to climate change, with 44% of respondents classified as “alarmed,” more than double the national average.
- Those having trouble obtaining homeowners insurance consistently indicate being alarmed about climate change.

This report provides an overview of the survey methodology along with brief findings from the survey responses.

For more information, please contact Lisa Groshong at lgroshong@naic.org.

² Pacific: Alaska, California, Hawaii, Oregon and Washington; West South Central: Arkansas, Louisiana, Oklahoma, and Texas; Middle Atlantic: New Jersey, New York and Pennsylvania

Disclaimer

This study represents the opinions of the authors and is the product of professional research. It is not intended to represent the position or opinions of the NAIC or its members, nor is it the official position of any NAIC staff members. Any errors are the responsibility of the authors.



Survey Methods

The extreme weather and property insurance survey was conducted March 9–16, 2021, using a nonprobability sample of 2,496 U.S. homeowners recruited through SurveyMonkey’s Audience panel. SurveyMonkey calculated a margin of sampling error on the total results as +/-2 percentage points at a 95% confidence level.

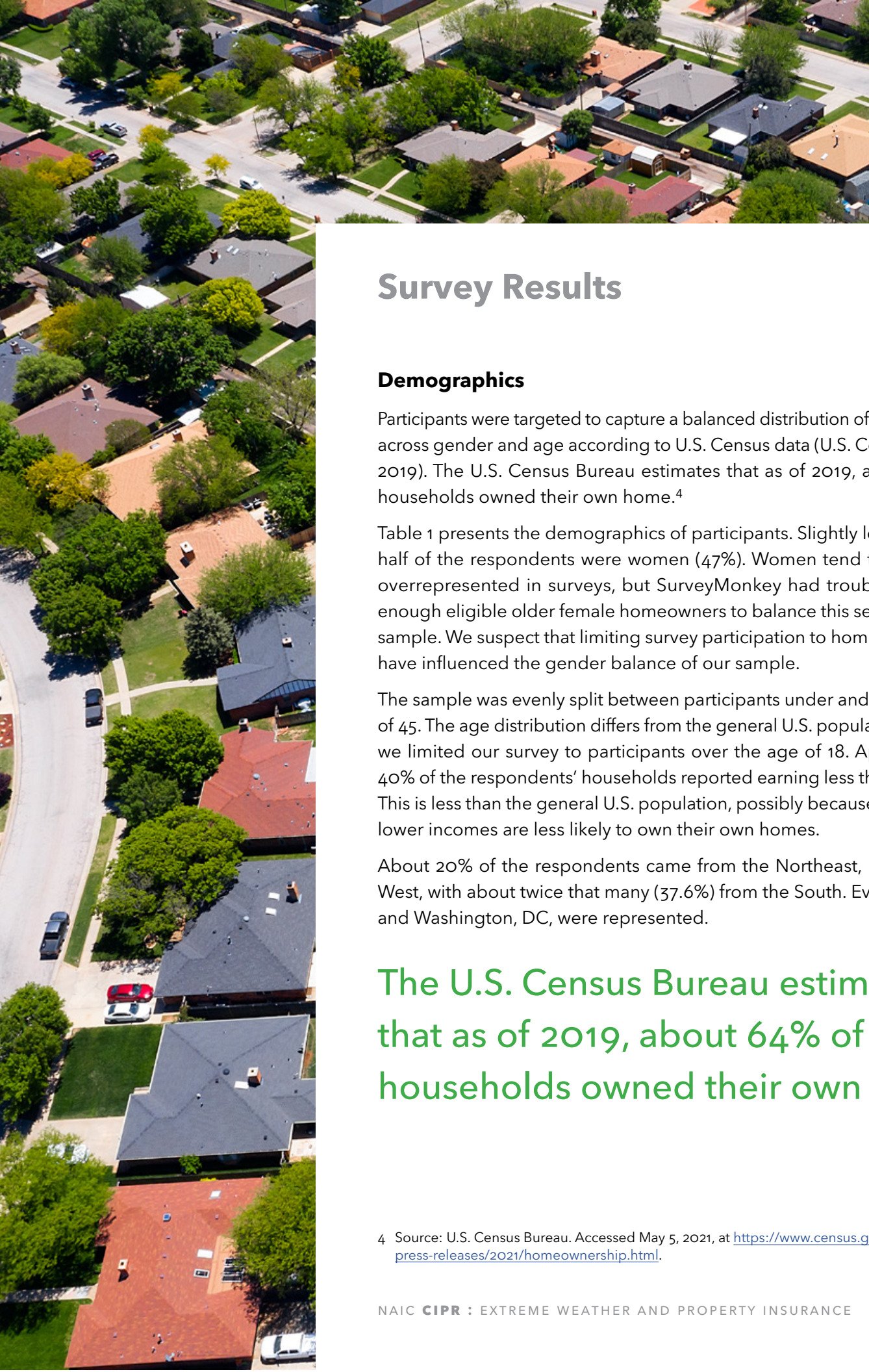
SurveyMonkey targeted respondents in their panel who previously identified themselves as homeowners when asked, “Do you rent or own the place where you live?” SurveyMonkey’s methodology does not distinguish between stand-alone houses, condos, apartments, or other types of homes.

The survey’s 39 questions explored experiences, knowledge and perceptions related to property insurance among homeowners. Participants were asked to answer questions about their home insurance, including their role in choosing it, the approximate cost, and whether the price has changed. Participants were asked about their experience with home damage due to extreme events, whether they have altered or would alter their home to protect it, and if they believe their insurance costs have changed due to such events. The survey also queried their interest in insurance companies’ actions to address climate change. Demographic information included age, gender, race, annual household income, and U.S. Census Bureau region.

Audience segmentation questions were drawn from Global Warming’s Six Americas Super Short Survey (SASSY!), an audience segmentation tool designed to cluster respondents according to their climate views.³

The survey also queried their interest in insurance companies’ actions to address climate change.

³ Breanne Chryst, Jennifer Marlon, Sander van der Linden, Anthony Leiserowitz, Edward Maibach and Connie Roser-Renouf (2018). Global Warming’s “Six Americas Short Survey”: Audience Segmentation of Climate Change Views Using a Four Question Instrument, *Environmental Communication*, 12:8, 1109–1122, DOI: 10.1080/17524032.2018.1508047.



Survey Results

Demographics

Participants were targeted to capture a balanced distribution of homeowners across gender and age according to U.S. Census data (U.S. Census Bureau 2019). The U.S. Census Bureau estimates that as of 2019, about 64% of households owned their own home.⁴

Table 1 presents the demographics of participants. Slightly less than one-half of the respondents were women (47%). Women tend to be slightly overrepresented in surveys, but SurveyMonkey had trouble recruiting enough eligible older female homeowners to balance this segment of the sample. We suspect that limiting survey participation to homeowners may have influenced the gender balance of our sample.

The sample was evenly split between participants under and over the age of 45. The age distribution differs from the general U.S. population because we limited our survey to participants over the age of 18. Approximately 40% of the respondents' households reported earning less than \$50,000. This is less than the general U.S. population, possibly because people with lower incomes are less likely to own their own homes.

About 20% of the respondents came from the Northeast, Midwest and West, with about twice that many (37.6%) from the South. Every U.S. state and Washington, DC, were represented.

The U.S. Census Bureau estimates that as of 2019, about 64% of households owned their own home.

⁴ Source: U.S. Census Bureau. Accessed May 5, 2021, at <https://www.census.gov/newsroom/press-releases/2021/homeownership.html>.

Table 1. Survey Demographics

Respondent Demographics (n = 2,496)	N	% of Survey Participants	% of U.S. Population
Gender (n = 2,481)			
Female	1,177	47.4	50.8 ⁵
Male	1,304	52.6	49.2
Age (n = 2,481)			
18–29	291	11.7	13.6+ ⁶
30–44	947	38.2	19.5
45–60	662	26.7	18.9
>60	581	23.4	22.8
Household Income (n = 2,481)			
\$0–\$49,999	594	23.9	38.4 ⁷
\$50,000–\$74,999	363	14.6	17.4
\$75,000–\$99,999	383	15.4	12.8
\$100,000+	949	38.3	31.4
Prefer Not to Answer	192	7.7	
U.S. Census Region (n = 2,471)			
Northeast (<i>includes Middle Atlantic and New England states</i>)	514	20.8	17.1 ⁸
Midwest (<i>includes East and West North Central states</i>)	522	21.1	20.8
South (<i>includes East and West South Central and South Atlantic states</i>)	929	37.6	38.3
West (<i>includes Mountain and Pacific states</i>)	506	20.5	23.9
Race (n = 2,542)⁹			
White	2,163	87.0	72.0
Black	167	6.7	12.8
Asian	103	4.1	5.7
American Indian or Alaska Native	41	1.7	0.9
Native Hawaiian or Other Pacific Islander	9	0.4	0.2
Other	59	2.4	5.0 ¹⁰

5 Source: U.S. Census Bureau. Accessed May 5, 2021, at <https://data.census.gov/cedsci/table?q=United%20States&tid=ACST1Y2019.S0101>.

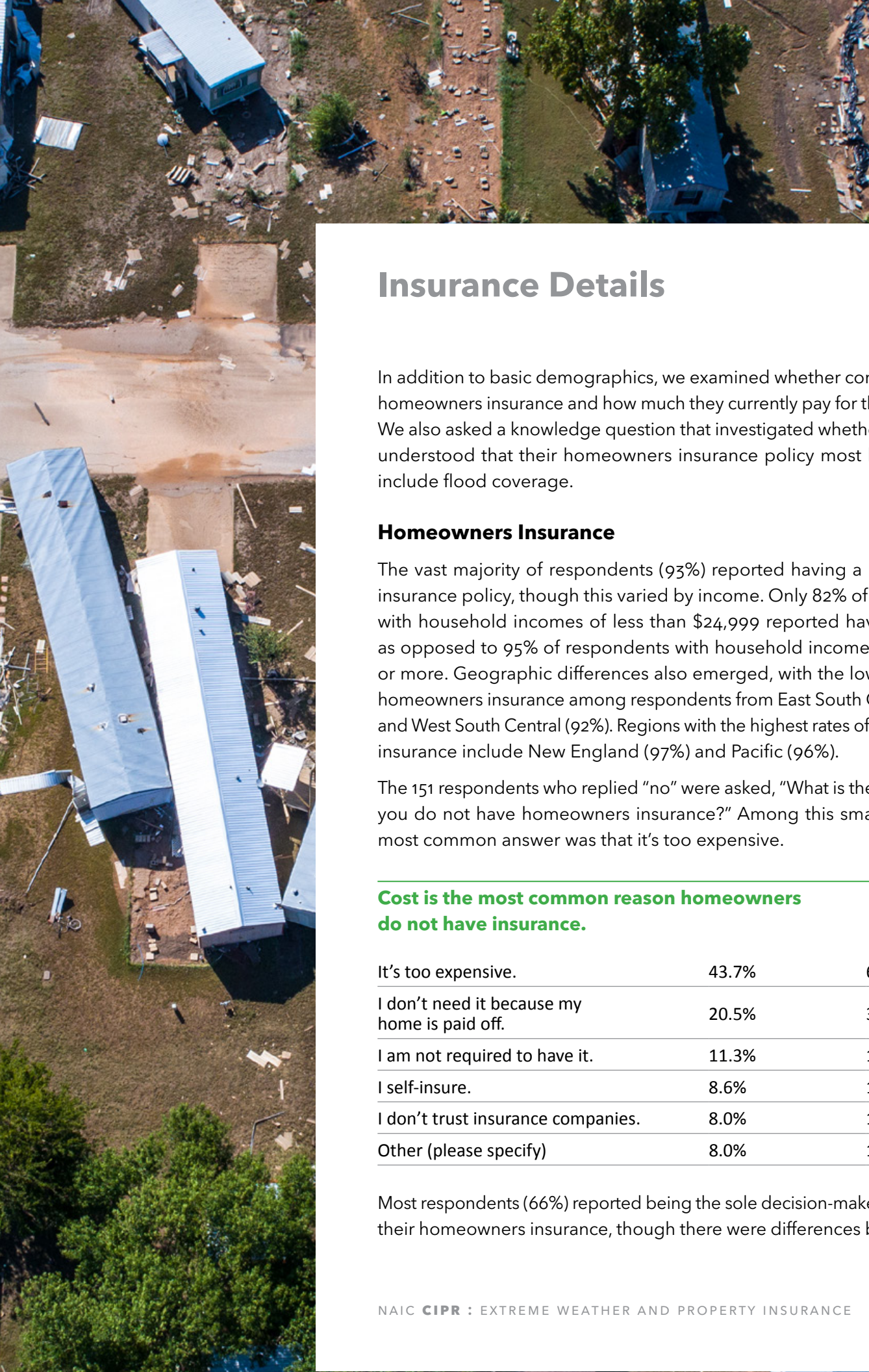
6 U.S. Census groups ages 15–19, so this table includes people aged 20–29 but excludes those 18–19.

7 Source: U.S. Census Bureau. Accessed May 5, 2021, at <https://data.census.gov/cedsci/table?q=household%20income&tid=ACST1Y2019.S1901>.

8 Source: U.S. Census Bureau. Accessed May 5, 2021, at https://www.census.gov/popclock/print.php?component=growth&image=//www.census.gov/popclock/share/images/growth_1561939200.png.

9 Total exceeds 100% because respondents could choose more than one option.

10 In addition, 3.4% of the U.S. population identifies with two or more races.



Insurance Details

In addition to basic demographics, we examined whether consumers have homeowners insurance and how much they currently pay for that insurance. We also asked a knowledge question that investigated whether consumers understood that their homeowners insurance policy most likely did not include flood coverage.

Homeowners Insurance

The vast majority of respondents (93%) reported having a homeowners insurance policy, though this varied by income. Only 82% of respondents with household incomes of less than \$24,999 reported having a policy, as opposed to 95% of respondents with household incomes of \$25,000 or more. Geographic differences also emerged, with the lowest levels of homeowners insurance among respondents from East South Central (90%) and West South Central (92%). Regions with the highest rates of homeowners insurance include New England (97%) and Pacific (96%).

The 151 respondents who replied “no” were asked, “What is the main reason you do not have homeowners insurance?” Among this small group, the most common answer was that it’s too expensive.

Cost is the most common reason homeowners do not have insurance.

It’s too expensive.	43.7%	66
I don’t need it because my home is paid off.	20.5%	31
I am not required to have it.	11.3%	17
I self-insure.	8.6%	13
I don’t trust insurance companies.	8.0%	12
Other (please specify)	8.0%	12

Most respondents (66%) reported being the sole decision-maker in choosing their homeowners insurance, though there were differences between men

and women. While 77% of men said they were the sole decision-maker, only 54% of women said they were.

Price of Insurance

As of 2018, the average annual premium for homeowners insurance covering a home valued at \$100,000 to \$299,999 is estimated to be \$888 to \$1,114.¹¹ Numerous factors influence the cost of homeowners insurance, most notably real estate values and exposure to risks, such as flood, earthquake or tornado.

More than half of consumers pay \$2,000 or less for their homeowners insurance.

Annual Premium for Homeowners Insurance	Response Percent	Responses
Less than \$1,000 per year	21.8%	508
Between \$1,000 and \$2,000 per year	39.8%	928
Between \$2,001 and \$4,000 per year	21.0%	489
More than \$4,000 per year	9.5%	221
I don't know	8.0%	186
Total		2,332

Consistent with our expectations, respondents' reported insurance premiums were correlated with income, suggesting that those with higher incomes own more expensive houses that cost more to insure. More than two-thirds (64%) of respondents with income over \$200,000 reported paying more than \$2,000 for their insurance, with 32% of those paying more than \$4,000 a year. In contrast, more than half of homeowners earning less than \$125,000 paid less than \$2,000 for their homeowners insurance.

The regions reporting the highest premiums were the Middle Atlantic (New Jersey, New York and Pennsylvania) and West South Central (Arkansas, Louisiana, Oklahoma, and Texas). Respondents in East South Central (Alabama, Kentucky, Mississippi and Tennessee) reported the lowest overall premiums.

Flood

We asked respondents, "Is flood covered by your homeowners insurance?" This was included as a knowledge question to test whether people are

¹¹ NAIC (2020). Dwelling Fire, Homeowners Owner-Occupied, and Homeowners Tenant and Condominium/Cooperative Unit Owner's Insurance Report: Data for 2018. Accessed online at https://www.naic.org/prod_serv/HMR-ZU-20.pdf.



aware that flood insurance must be obtained through a separate policy or if they believe their regular policy covers it.

More than half of respondents (56%) indicated that they believe their homeowners policy covers flood, though regional differences emerged. Respondents in New England were least likely to answer “yes” (39%), followed by West North Central (43%) and Mountain (45%). Respondents were most likely to answer “yes” in West South Central (66%), Middle Atlantic (61%), Pacific (58%) and South Atlantic (56%). In a survey conducted by the NAIC in 2019 that made it more clear flood was not covered under standard policies, only 17% of homeowners indicated they had purchased flood insurance.

Standard homeowners insurance policies exclude flood damage, so homeowners must purchase separate policies, either through private companies or the National Flood Insurance Program (NFIP), which is operated by the U.S. Federal Emergency Management Agency (FEMA). Based on FEMA and U.S. Census estimates,¹² only about 3.6% of homeowners actually have flood insurance.

To what extent do consumers see a connection between extreme weather events and their broader insurance coverage?

For this question, we examined whether consumers’ homeowners insurance costs have gone up and what consumers believe prompted those increases. We also asked whether homeowners have had trouble getting or retaining their insurance and what they perceive to be the most pressing threats facing their property.

Rising Costs

Among homeowners who have lived in the same house for the past three years, 66% report that their premium has gone up either a little bit (40%) or significantly (26%). Only 5% said the premium has gone down. The remainder report that the premium has not changed (19%) or that they do not know (6%).

Homeowners whose premiums went up were asked what they thought was the most likely reason. The most common response was “insurance companies trying to increase profits,” followed closely by “increase in natural disasters such as hurricanes and wildfires.”

¹² As of 2019, there were 5,037,266 flood insurance policies in force among 139,684,244 housing units.

Consumers cite a variety of reasons for why they believe their premiums went up.

	%	Responses
Insurance companies trying to increase profits	26%	405
Increase in natural disasters such as hurricanes and wildfires	26%	397
Increase in home value	23%	363
Changes to coverage	21%	328
Made a claim recently	4%	55
Total		1,548

Trouble Obtaining or Renewing Coverage

Among the 397 respondents who believe their premium has gone up because of an increase in natural disasters, about half (49%) said they have had trouble getting or renewing homeowners insurance because of natural disasters, compared with less than one-third of respondents (27%) overall.

People who pay higher premiums for their homeowners insurance are more likely to have trouble getting or renewing insurance because of wildfires or hurricanes.

	Yes %	No %
Less than \$1,000	14%	86%
\$1,000–2,000	22%	78%
\$2,001–4,000	41%	59%
\$4,000 or more	66%	34%

Across the entire sample, homeowners paying higher premiums had statistically significantly more trouble getting or renewing insurance because of natural disasters (95% confidence level, $p = 0.05$).

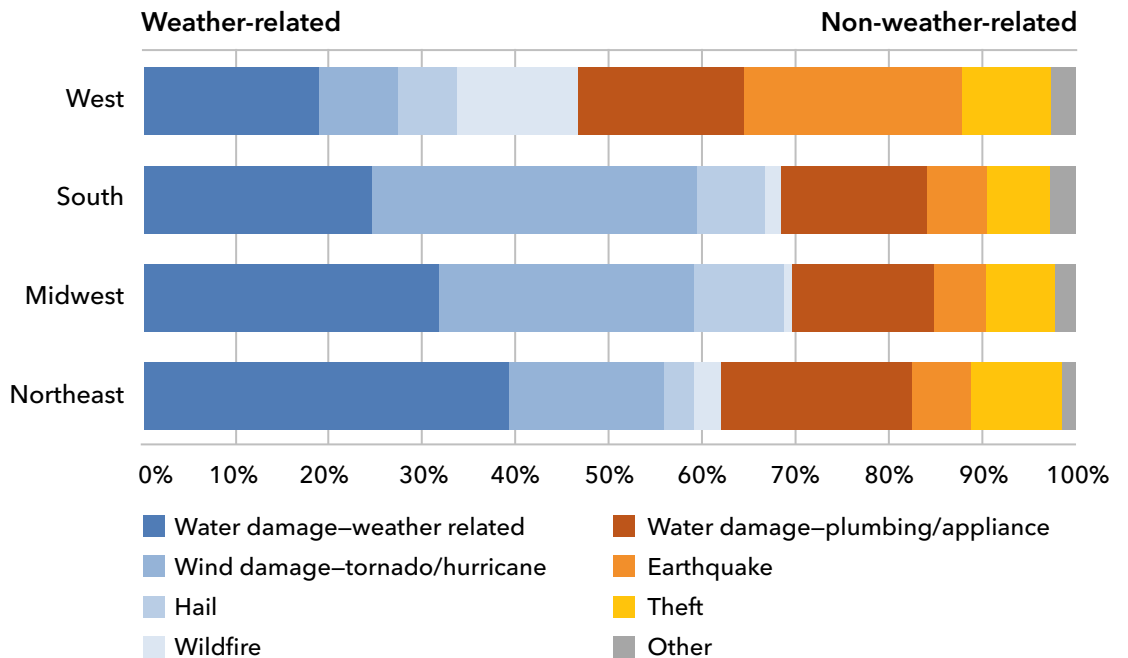
Notable geographic differences emerged related to this question. More than one-third of respondents in Pacific (36%; Alaska, California, Hawaii, Oregon and Washington), West South Central (34%; Arkansas, Louisiana, Oklahoma and Texas) and Middle Atlantic (33%; New Jersey, New York and Pennsylvania) states reported challenges in getting or renewing homeowners insurance because of natural disasters, while few respondents did in New England (13%; Connecticut, Maine, Massachusetts, New Hampshire, Rhode

Island and Vermont), East South Central (17%; Alabama, Kentucky, Mississippi and Tennessee) and Mountain (17%; Arizona, Colorado, Idaho, Montana, New Mexico, Nevada, Utah and Wyoming) states.

Threats

Survey respondents cited several top property threats facing their homes. Across the entire sample, nearly one-third (28%) believed that the top threat was weather-related water damage, such as rain, melting ice or snow. About one-quarter (24%) saw wind damage from a tornado or hurricane as the top threat. About 17% cited non-weather-related water damage, such as plumbing or appliance issues. Less-frequent choices included earthquake (10%), theft (8%), hail (7%) and wildfire (4%). A majority of homeowners identified weather-related threats, such as water damage, hail, wind damage and wildfire, as the most significant threats facing their homes-- except in the West, where earthquake was identified as the top threat.

Weather-related versus non-weather-related property threats perceived by American homeowners, by U.S. Census Region



Survey question: What would you say is the most significant property threat facing your home?

Source: NAIC’s consumer homeowner property insurance survey, conducted March 9-16, 2021, with 2,496 adults nationwide.

Top threat perceptions varied dramatically by region. For example, weather-related water damage, such as rain, melting ice or snow, was especially salient in New England, where 52% of respondents cited it as their most significant property threat. This threat was also rated as higher than average in the Middle Atlantic (36%) and East North Central (34%). Similarly, while one-quarter of respondents overall cited wind damage as the biggest threat, this number was far higher in East South Central (42%), South Atlantic (37%) and West North Central (36%). While only 10% of respondents overall saw earthquake as their most significant threat, 26% of respondents in the Mountain region chose it. It was also higher than average in the Middle Atlantic (21%), New England, East South Central and South Atlantic regions, cited by about 17% of respondents in each. Hail was far higher than average in West North Central (22%) and Mountain (19%) states.

Top 5 property threats perceived by American homeowners vary by U.S. Census Region

Northeast	Midwest	South	West
39% Weather-related water damage	32% Weather-related water damage	35% Wind damage —tornado or hurricane	23% Earthquake
20% Water damage —plumbing/appliance	27% Wind damage —tornado or hurricane	25% Weather-related water damage	19% Weather-related water damage
17% Wind damage —tornado or hurricane	15% Water damage —plumbing/appliance	16% Water damage —plumbing/appliance	18% Water damage —plumbing/appliance
10% Theft	10% Hail	7% Hail	13% Wildfire
6% Earthquake	8% Theft	7% Theft	10% Theft

Survey question: What would you say is the most significant property threat facing your home?

Source: NAIC's consumer homeowner property insurance survey, conducted March 9-16, 2021, with 2,496 adults nationwide.

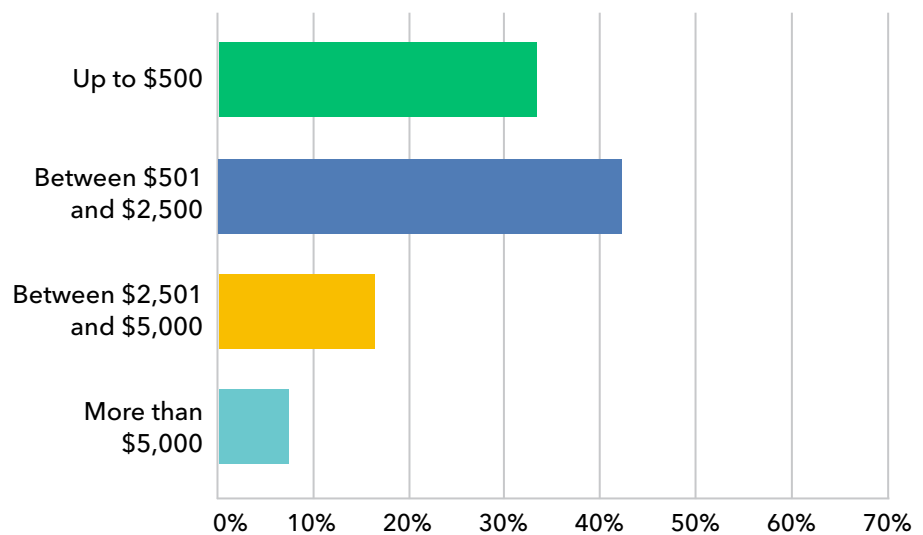
What is the relationship between what consumers believe about extreme weather and what actions they have taken related to their homeowners insurance?

To explore this question, we looked at whether homeowners report being aware of ways to protect their property and asked if they had taken steps to do so. We also asked about their experience with threats to their property and whether they would move somewhere that faced certain types of risks. Respondents were asked to rate the vulnerability of their location and consider whether extreme events are becoming more frequent. Finally, we asked whether they would visit a website where they could learn about how their insurance company is assessing and managing climate-related risks.

Actions to Protect Property

Most respondents overall (68%) said they were aware of things they could do to protect their property from extreme weather events to reduce their risk; this represents 73% of men and 63% of women. However, this awareness does not necessarily translate into action. Only half (50%) of respondents had actually made changes to their homes, though more than three-quarters (77%) said they would be willing to spend their own money to fortify their home in exchange for a reduction in their homeowners insurance premium. Many respondents (42%) indicated they would be willing to spend between \$501 and \$2,500 for a 1% to 10% premium reduction, suggesting that homeowner willingness to invest in protective home improvements may depend on perceived return on that investment.

Homeowners would invest up to \$2,500 in home protection



Perceptions of Future Loss Risk

Homeowners were asked if they believe recent weather events have affected their risk of future losses to their home or property. About equal numbers of respondents answered “yes” (41%) and “no” (40%), though another 19% said they were not sure.

Respondents’ perception of risk seems to be growing. Using a slider bar with values ranging from 1 to 100, with 1 being “extremely low risk,” 50 being “moderate risk” and 100 being “extremely high risk,” participants were asked to rate the level of risk they believe their property faced from extreme weather events five years ago, today and five years from now. Mean level of concern increased from 43 five years ago to 45 related to today and 48 looking into the future.



Risky Living

The majority of respondents (64%) said they would not move to an area that has experienced flooding or hurricanes, while even more (69%) would be reluctant to move to an area that has experienced wildfires. Women were far less willing to move to an area with flooding or hurricanes (26% of women versus 47% of men said “yes”) or that had experienced wildfires (22% of women versus 40% of men said “yes”).

This is in line with recent research by the real estate website Redfin,¹³ which found that more than three-fourths (79%) of Americans would hesitate before buying a home in an area with increasing frequency or intensity of natural disasters. Similar percentages would be hesitant about buying in areas with extreme temperatures (75%) or rising sea levels (76%).

Risk Assessment: Worse Elsewhere but Extreme Weather Events are More Frequent

On the whole, respondents seem to consider the area where they live slightly less vulnerable to extreme weather events than the U.S. average. On a scale of 1 to 100, with 1 being “extremely low risk,” 50 being “moderate risk” and 100 being “extremely high risk,” the mean response was 44, just below average.

Despite believing that their own area is less vulnerable to extreme events, three-quarters (75%) of respondents believe that extreme weather events are happening more frequently overall because of climate change. There was no significant difference between men and women. Again, the mean

¹³ Katz, Lily (2021). “Nearly Half of Americans Who Plan to Move Say Natural Disasters, Extreme Temperatures Factored into Their Decision to Relocate: Survey.” Accessed May 13, 2021, at <https://www.redfin.com/news/climate-change-migration-survey/>.

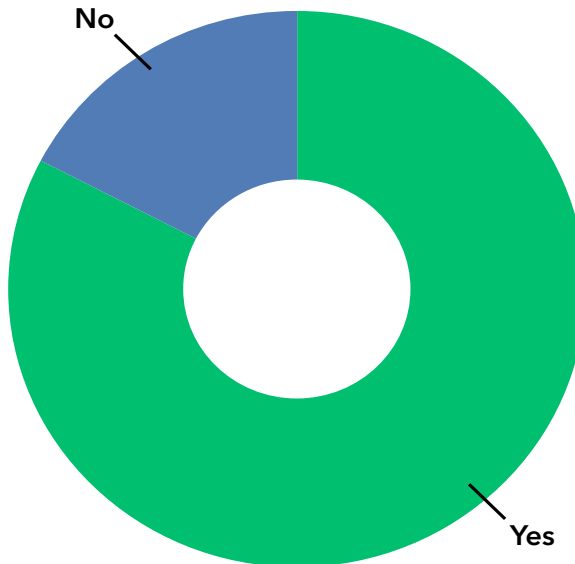
response to the question “To what extent do you think climate change has impacted the risks to your home?” was just below half, a mean response of 47 on a 100-point scale from “extremely low risk” to “extremely high risk.”

Insurer Climate Risk Disclosures

Homeowners were asked to imagine there was a website where they could find out what insurance companies are doing to address changing weather patterns and other climate-related risks.

Most respondents (83%) indicated they would visit this website. The 2,049 respondents who answered “yes” were asked to what extent they would use this information to decide which insurance company they do business with. On a scale of 0 to 100, with 0 being “not at all” to 100 being “a great deal,” the median response was 57, and the mean was roughly 62. This suggests that consumers would use this information to a moderate amount.

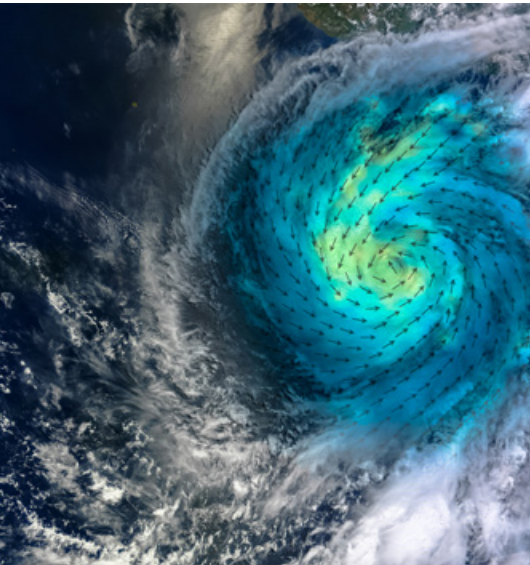
Most respondents said they would visit a website to find out how insurance companies are addressing climate risks.



Information about insurer climate assessment and management is, in fact, currently available on the [California Department of Insurance \(DOI\) website](#). This information is based on the Insurer Climate Risk Disclosure Survey, which the NAIC adopted in 2010. Currently, about 1,200 companies provide information about their climate risk governance, climate risk management,

modeling and analytics, stakeholder engagement, and greenhouse gas management. In 2020, the [CIPR released a report](#) examining how insurers across key characteristics assess and manage climate risks and how their responses have changed over time.

The NAIC's [Climate and Resiliency \(EX\) Task Force](#), formed in 2020, has been charged with coordinating the organization's domestic and international efforts on climate-related risk and resiliency issues, including dialogue among state insurance regulators and with industry, consumers and other stakeholders.



How are homeowners segmented by their climate risk perceptions, which may depend on loss experience, and insurance coverage?

To explore this question, we have included a brief overview of audience segmentation based on perception of climate change, constructed using a validated survey instrument developed by researchers at Yale. We have also included respondents' personal experience with hazards.

Global Warming's Six Americas

We used the Yale Program of Climate Change Communication and the George Mason University Center for Climate Change Communication's [SASSY! Group tool](#)¹⁴ to analyze how our survey respondents compare to the national average in terms of their global warming beliefs, behaviors, and policy preferences. Using 14 national samples and machine learning algorithms, the Yale group identified a subset of four salient questions from an original set of 36 questions.

The SASSY! framework uses these questions to investigate respondents' climate perceptions:

- 1) How important is the issue of global warming to you personally?
- 2) How worried are you about global warming?
- 3) How much do you think global warming will harm you personally?
- 4) How much do you think global warming will harm future generations of people?

¹⁴ Breanne Chryst, Jennifer Marlon, Sander van der Linden, Anthony Leiserowitz, Edward Maibach and Connie Roser-Renouf (2018). Global Warming's "Six Americas Short Survey:" Audience Segmentation of Climate Change Views Using a Four Question Instrument, *Environmental Communication*, 12:8, 1109--1122, DOI: 10.1080/17524032.2018.1508047.

Using responses to these questions, the Yale group identified six audience segments:

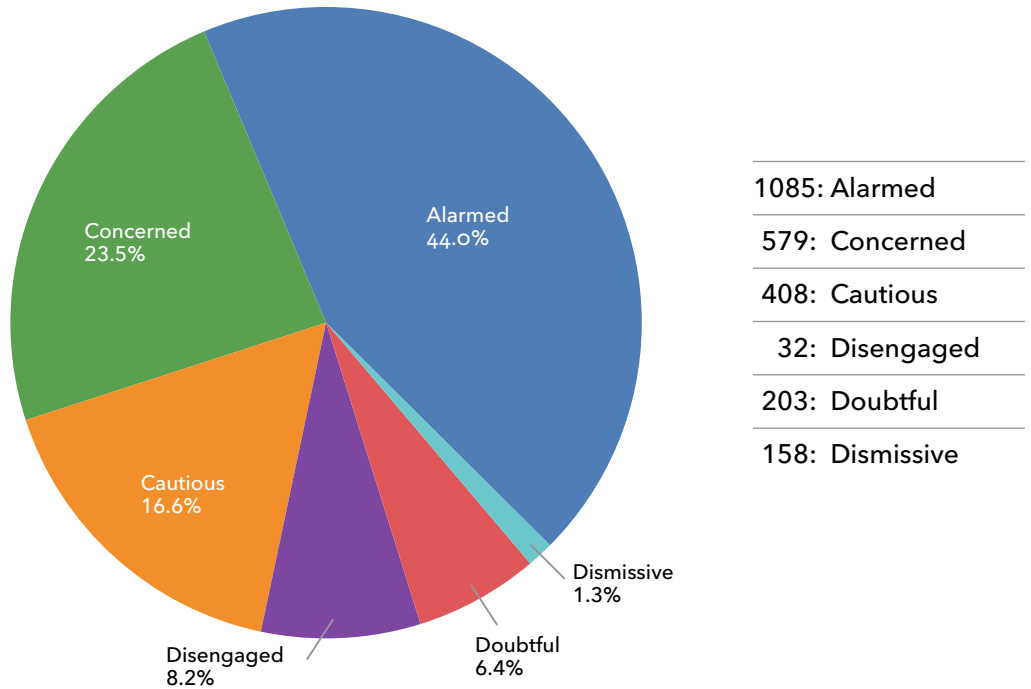
- **Alarmed:** Those convinced global warming is happening, human-caused, and an urgent threat. These people strongly support climate policies.
- **Concerned:** They think human-caused global warming is occurring and that it carries a serious threat, yet they tend to believe that climate impacts are still distant in time and space. Thus, climate change remains a lower priority issue.
- **Cautious:** Those who have not yet made up their minds.
- **Disengaged:** Those who are largely ignorant about global warming.
- **Doubtful:** Those who do not think global warming is happening or believe it is simply a natural cycle.
- **Dismissive:** Those who believe global warming is not happening, human-caused, or a threat, and who espouse conspiracy theories and hoax claims.

The true accuracy rate for the model ranges from 70% to 87% across the six segments.



Over recent years, the national distribution of the Six Americas has shifted significantly. For example, between 2015 and 2020, the “alarmed” category rose from 11% to 26% of the U.S. adult population, while those categorized as “dismissive” decreased from 12% to 7%. “Cautious” and “doubtful” have also declined.

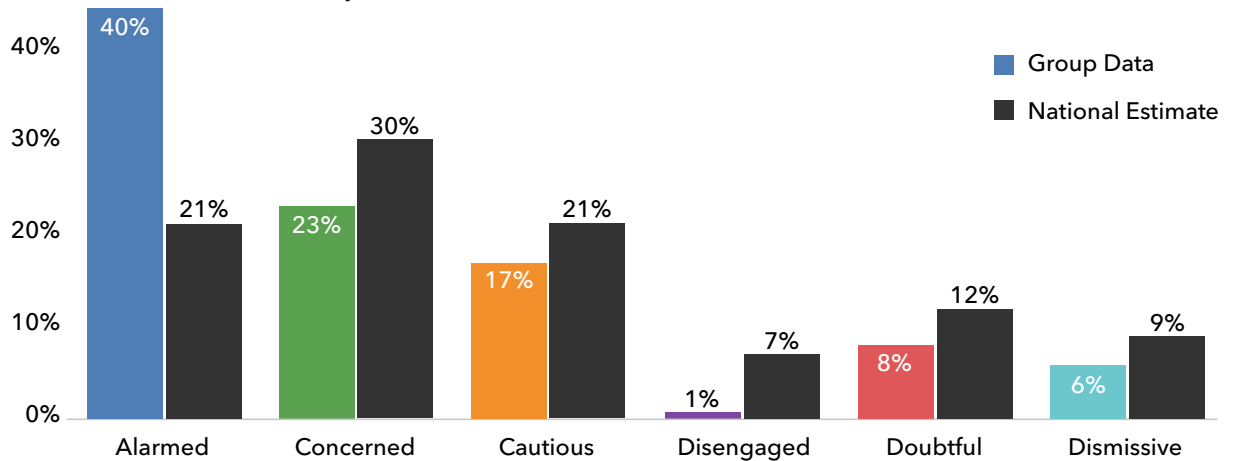
Six Americas audience segmentation classified more than two-thirds of survey respondents as “alarmed” or “concerned” about climate change.



Respondents to our survey demonstrated a high level of alarm related to climate change; 44% of the respondents in our sample were classified as “alarmed,” about twice the national average. Meanwhile, the other five groups were smaller than their national counterparts. Nationally, the proportion of those classified as “alarmed” has been steadily growing over the last five years, while the more skeptical segments have been declining. However, our sample highlights an even stronger level of concern related to climate change issues than the national average. Below is a comparison of our sample’s segmentation to the national average.

We also analyzed the Six Americas audience segmentation across coastal states by clustering our sample into five groups based on region. Instead

Group Data vs. National Estimate (March 2018)



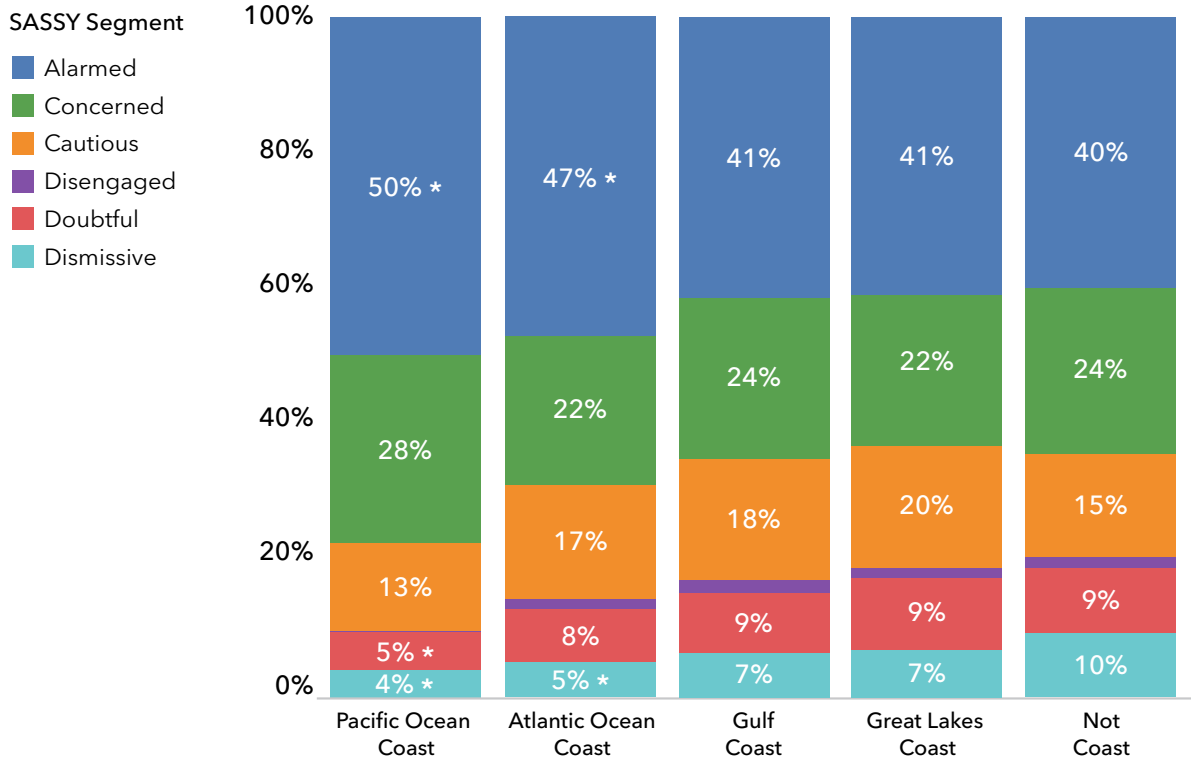
of grouping states by U.S. Census region, the following analysis groups states by coastal exposure, given that climate risk perception and loss experience can vary substantially between coastal and non-coastal areas.

- **Pacific Coast:** Alaska, California, Hawaii, Oregon and Washington
- **Gulf Coast:** Alabama, Florida, Louisiana, Mississippi and Texas
- **Atlantic Coast:** Connecticut, Delaware, Georgia, Maine, Maryland, New Hampshire, New Jersey, New York, North Carolina, Rhode Island, South Carolina and Virginia
- **Great Lakes Coast:**¹⁵ Illinois, Indiana, Michigan, Minnesota, Ohio, Pennsylvania and Wisconsin
- **Not Coast:** All other states

The aggregated bar chart shows the percent of respondents in each of the Six Americas categories by coastal area. On average, respondents from coastal states are more alarmed about the climate change risk than those from non-coastal states. Half of the individuals in Pacific states (50%) were classified as alarmed, followed by 47% in Atlantic states. Fewer alarmed individuals were found in Gulf Coast (41%), Great Lakes (41%), and non-coastal (40%) states. The differences between Pacific states and non-coastal states and between Atlantic states and non-coastal states are statistically significant. Respondents in Pacific states and Atlantic states are also significantly less likely to be dismissive compared to those in non-coastal states.

¹⁵ For our analysis, the Great Lakes Coast states are virtually not different from the Not Coast states in terms of the climate change activities. However, we would like to stick to this commonly used method to divide the geographical regions. Also, the Great Lakes Coast may have more inland flooding than the Not Coast states.

Six Americas Segment by Coastal Area



Note: The asterisk (*) denotes a statistically significant difference compared to the Not Coast states.

Our Six Americas audience segmentation groups survey respondents based on their risk perceptions of climate change. Here, we examine the relationship between climate risk perception and two factors: 1) loss experience; and 2) the difficulty in obtaining homeowners insurance.¹⁶

First- or Second-Hand Experience with Hazards

We asked whether respondents or someone they knew had suffered home damage due to three common hazards: 1) hurricane (HC); 2) wildfire (WF); and 3) earthquake (EQ). As a respondent may answer “yes” to all three questions, we divide our sample into seven exclusive groups: no loss experience, loss experience of only one event (HC only, WF only, EQ only), loss experience of only two events (HC & WF only, HC & EQ only, WF & EQ only), and loss experience of all three types of events (HC & WF & EQ). On average, 46% of respondents had no loss experience; 17% of respondents had loss experience with all three events.

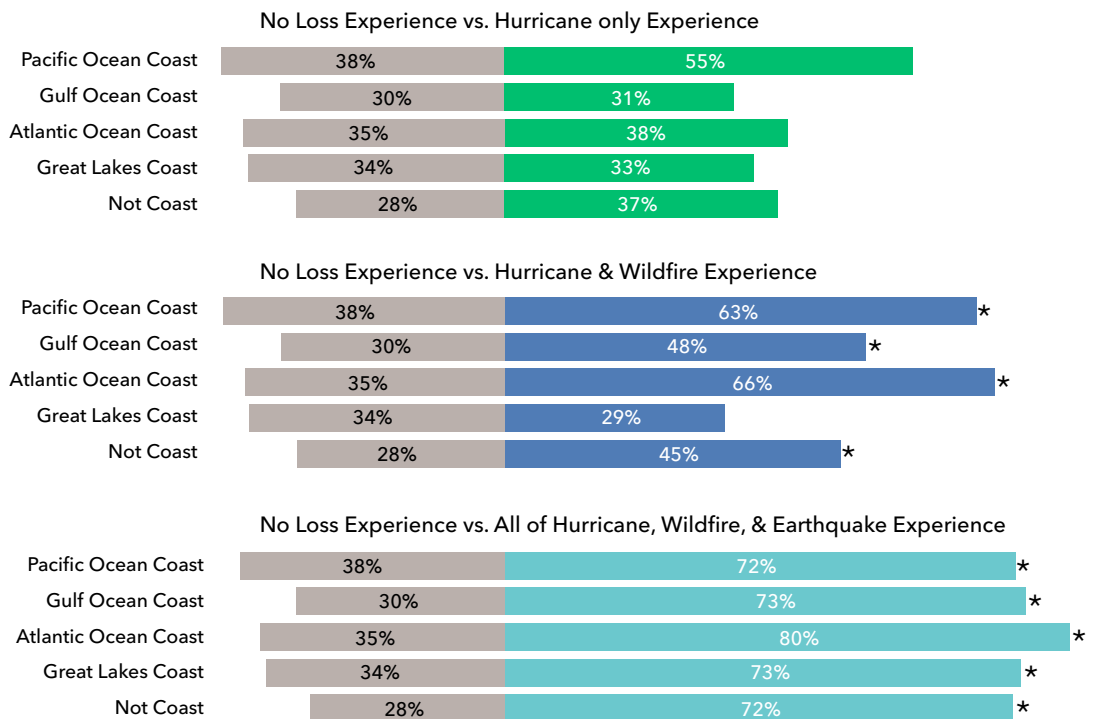
¹⁶ For further analysis, please refer to our academic manuscript, in which we further examine how respondents’ climate risk perception varies across demographic, loss experience, insurance, and other factors.

Six Americas Level by Loss Experience

Next, we show how the average percent of alarmed respondents varies across loss experience. We specifically focus on the alarmed category because it has the largest portion (44%) in our sample, and only alarmed individuals strongly support climate policies.

The chart below shows that only having hurricane experience does not effectively increase individuals' risk perceptions of climate change, even in coastal states. For individuals who have had loss experience of both hurricanes and wildfire, climate risk perceptions significantly increase (except Great Lakes Coast). Their average alarmed level is significantly higher than that of the no-loss-experience group. For respondents who have had loss experience of all three events, the average alarmed level further increases and exceeds 70% in all areas. The single loss experience of a hurricane does not significantly increase individuals' response to climate change possibly because the hurricane experience happened decades ago. The availability heuristic, or availability bias,¹⁷ theory suggests that individuals may primarily rely on recent experience or information when evaluating a decision.

Average Percent of Alarmed Respondents by Loss Experience



Note: The asterisk (*) denotes a statistically significant and higher percent compared to the No-Loss-Experience group.

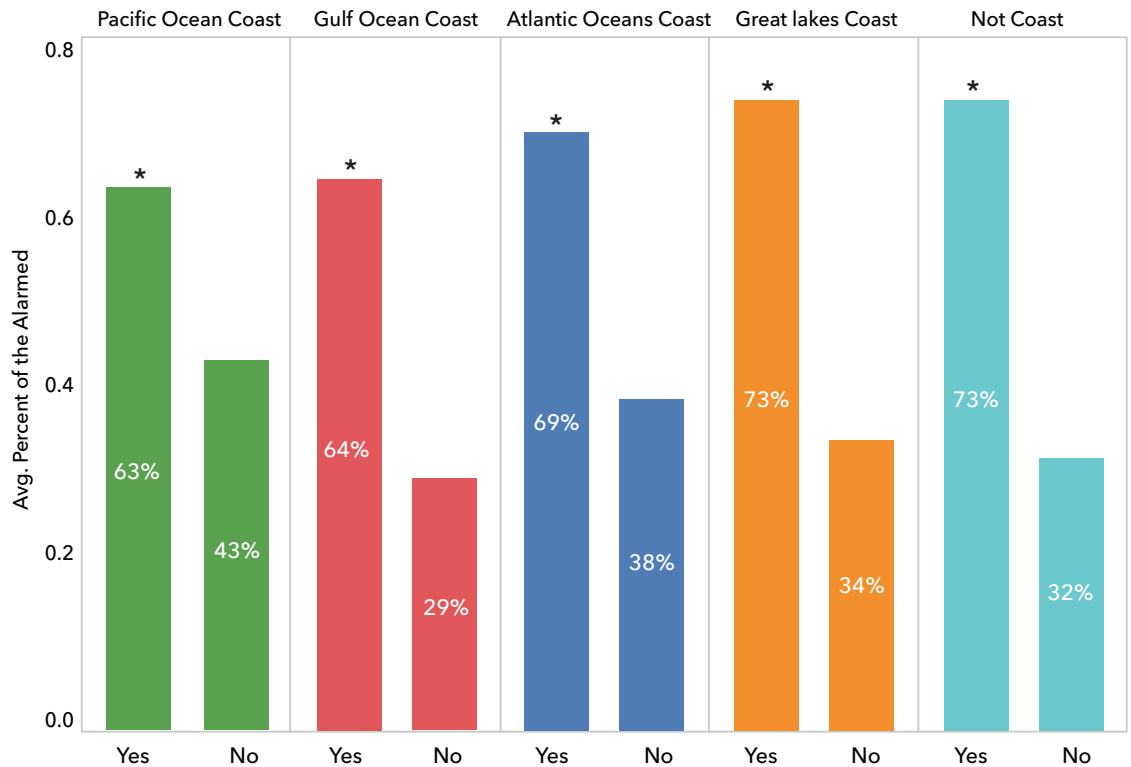
¹⁷ Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive psychology*, 5(2), 207-232.

Six Americas Level by Trouble Obtaining or Renewing Homeowners Insurance

Here, we looked at whether individuals exhibit a higher alarmed level when they have had trouble getting or renewing homeowners insurance due to an increase in natural disasters. We expected that individuals who had ever been unable to obtain or renew insurance coverage would be more worried about climate change risk because they were not financially protected against natural disaster losses. The chart below shows a consistent result. In all areas, the average percent of alarmed respondents is statistically higher for respondents with trouble (Yes group) than for respondents without trouble (No group). The difference is even larger in Not Coast and Great Lakes Coast states: Individuals in non-coastal areas were more afraid and, thus, more concerned about climate change when they were turned down by insurers due to increased natural disasters.

Average Percent of Alarmed Respondents by Trouble Buying Homeowners Insurance

Yes/No: Whether individual have trouble getting or renewing homeowners insurance due to an increase in natural disasters?



Note: The asterisk (*) denotes a statistically significant difference comparing the Yes group to the No group.