

2023 National Household Survey on Disaster Preparedness Methodology Report

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Methods and Procedures

1. Background and Objectives

FEMA has fielded the National Household Survey on Disaster Preparedness annually since 2013 to capture data on the disaster preparedness actions, attitudes and motivations of the American public. The survey helps to promote and sustain a prepared nation by providing insight into whether and how populations have prepared themselves for emergencies and disasters.

2. Study Design

2.1. Target Population and Eligibility

Preparing for disasters is a shared responsibility for the whole nation and includes people of all ages, backgrounds, and abilities. Because this survey focuses on individual and household preparedness, the target population was the civilian, non-institutionalized U.S. adult population (aged 18 years or older) who had internet access. The target population included individuals residing in the U.S., including individuals residing in the U.S. territories of American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Puerto Rico and the U.S. Virgin Islands.

The target population excluded children (aged 17 years or younger). While children play an important role in preparing for disasters, this survey targeted the adult population due to the complexities and sensitivities of surveying and collecting data from minors.

Due to the survey mode, an online web-based survey, the target population excluded adults without internet access and adults who did not speak English or Spanish well enough to fill out an online survey. Based on previous versions of the survey that included both web and phone response modes, responses were not substantially different between respondents who took the survey online compared to over the phone. Surveying adults who did not speak English or Spanish well enough to fill out an online survey was not feasible due to the cost and time constraints associated with translating the survey and targeting a sufficient sample size of that population.

The target population excluded adults in penal, mental or other institutions, as well as adults living in dormitories, barracks or boarding houses. Reaching these populations was not feasible given the resource constraints to conduct this survey.

2.2. Approvals

Data for the survey was collected under OMB Control# 1660-0105. This questionnaire is compliant with the Paperwork Reduction Act (PRA).

2.3. Survey Instrument

The survey instrument consisted of a set of core survey items related to disaster preparedness, pandemic preparedness, demographics and other topics. All survey respondents received the core survey items. Respondents who were part of one of six hazard samples (Hazard Oversamples) received additional items related to a specific hazard. The survey instrument was programmed in English and Spanish. Both language versions of the instrument are available on the FEMA website at: https://www.fema.gov/about/openfema/data-sets/national-household-survey.

The survey instrument was organized in the following way:

- Core survey items
  - Race and ethnicity
  - Stages of change
  - Preparedness influencers
  - Preparedness actions
  - Capacity building
  - Citizen responder
  - Financial resilience
  - Pandemic
- Hazard items *(if applicable)*
  - Coastal flooding
  - Earthquake
  - Hurricane
  - Riverine flooding
  - Radiological emergency
  - Wildfire
- Demographic items

2.4. Sampling Frame

The survey was administered by Zogby Analytics. Potential survey respondents were selected from online survey panels. Individuals were recruited to participate on the survey panels through a diversified network rather than through a single source to avoid creating panels of "professional" panelists. To perform as broad, diversified and exhaustive recruitments as possible, a wide range of different methods and sources were used for panel recruitment. Both broadly targeted and more narrowly targeted campaigns were used to create a diverse set of potential panelists. Hard-to-reach target groups (e.g., mothers with small children, high income households) were represented on the panels. During panel recruitment, potential panelists did not know which surveys they would receive.

2.5. Sampling

The target number of total survey responses was 7,500 across eight survey samples, which consisted of a national sample, an oversample for American Indian, Alaska Native, Native Hawaiian

or Other Pacific Islander respondents and six hazard oversamples. All respondents were required to be at least 18 years of age and reside in the United States.

2.5.1. NATIONAL SAMPLE

There was a target of 4,000 responses for the national sample. Within the 4,000-response target, there were geographic quotas for 10 geographic strata. Nine of the geographic strata were based on the U.S. Census divisions (Pacific, Mountain, West North Central, West South Central, East North Central, East South Central, New England, Middle Atlantic and South Atlantic). The tenth stratum consisted of American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Puerto Rico and the U.S. Virgin Islands. The quota allocation across the 10 geographic strata were proportional to population size according to U.S. Census Bureau data from the 2021 Five-Year American Community Survey (for the 50 states, the District of Columbia and Puerto Rico) and to U.S. Census Bureau data from the 2020 Decennial Census of Island Areas (for American Samoa, the Commonwealth of Northern Mariana Islands, Guam and the U.S. Virgin Islands).

Within the 4,000-response target for the national sample, there was also a quota of 200 Spanish-language responses. The 200 Spanish-language response quota represents 5% of the national sample target of 4,000, which is designed to capture the 4% of limited English-speaking households in the United States[1]. Spanish was chosen as the non-English language alternative because it is the second most-spoken language in the U.S. The survey was not available in languages other than English and Spanish due to cost constraints and because the number of responses in languages other than English and Spanish would have been unlikely to yield significant results due to extremely small sample sizes.

2.5.2. AMERICAN INDIAN, ALASKA NATIVE, NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER OVERSAMPLE

To qualify for the American Indian, Alaska Native, Native Hawaiian or Other Pacific Islander oversample, respondents had to self-identify their race as “American Indian or Alaska Native” and/or “Native Hawaiian or Other Pacific Islander.” Respondents who selected other races in addition to at least one of these two listed races qualified to be part of the oversample.

There was a target of 500 responses for the oversample. Geographic quotas were set based on the 10 geographic strata described above. The quota allocation across the 10 geographic strata were proportional to the population size of “American Indian or Alaska Native alone” or “Native Hawaiian or Other Pacific Islander alone” according to U.S. Census Bureau data from the 2021 Five-Year American Community Survey (for the 50 states, the District of Columbia and Puerto Rico) and U.S. Census Bureau data from the 2020 Decennial Census of Island Areas (for American Samoa, the Commonwealth of Northern Mariana Islands, Guam and the U.S. Virgin Islands).

[1] Sandy Dietrich and Hernandez, Erik, *Language Use in the United States: 2019*, U.S. Census Bureau (U.S. Department of Commerce, 2022), https://www.census.gov/content/dam/Census/library/publications/2022/acs/acs-50.pdf.

A quota for Spanish-language responses for this oversample was not needed, but respondents could take the survey in either English or Spanish.

Respondents who selected a race of "American Indian or Alaska Native" or "Native Hawaiian or Other Pacific Islander" were also eligible to be part of the national sample or one of the hazard samples (if they met the eligibility criteria), but each respondent could only be part of one sample.

2.5.3. HAZARD OVERSAMPLES

The criteria for being included in a hazard oversample was based on the potential respondent's geographic location. To qualify for a hazard oversample, potential respondents had to reside in a county or territory that met the geographic criteria for that hazard. The geographic criteria for the radiological emergency oversample was defined as the entire United States, including five U.S. territories (American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Puerto Rico and the U.S. Virgin Islands). The geographic criteria for the coastal flooding, earthquake, hurricane, riverine flooding and wildfire oversamples were defined as the top 50 counties with the highest Risk Index Score for the selected hazard using FEMA's National Risk Index (NRI).[2] Because the NRI does not include territory data, territories were added to the geographic criteria for several hazard oversamples (noted in Table 1). A complete list of all counties and territories that comprised each hazard's geographic criteria is provided in Appendix A: Hazard Samples Geographic Criteria.

Table 1: Hazard Oversample Geographic Criteria

Hazard Oversample	Geographic Criteria
Coastal flooding	Top 50 counties with the highest Risk Index Score for coastal flooding (CFLD_RISKS)
Earthquake	Top 50 counties with the highest Risk Index Score for earthquake (ERQK_RISKS), plus Puerto Rico
Hurricane	Top 50 counties with the highest Risk Index Score for hurricane (HRCN_RISKS), plus American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Puerto Rico and the U.S. Virgin Islands
Riverine flooding	Top 50 counties with the highest Risk Index Score for riverine flooding (RFLD_RISKS)
Radiological emergency	The United States, including American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Puerto Rico and the U.S. Virgin Islands
Wildfire	Top 50 counties with the highest Risk Index Score for wildfire (WFIR_RISKS)

[2] "National Risk Index for Natural Hazards," U.S. Department of Homeland Security, Federal Emergency Management Agency, updated March 23, 2023, accessed July 31, 2023, https://www.fema.gov/flood-maps/products-tools/national-risk-index.

A quota for Spanish-language responses for hazard oversamples was not needed, but respondents could take the survey in either English or Spanish.

Respondents who resided in a county or territory that met the geographic criteria for a hazard oversample were also eligible to be part of the national sample or the American Indian, Alaska Native, Native Hawaiian or Other Pacific Islander oversample (if they met the eligibility criteria), but each respondent could only be part of one sample.

2.6. Survey Administration

The survey fielding period began on February 1, 2023 and lasted through March 14, 2023. Invitations to participate in this survey were sent via email to panelists in either English or Spanish based on the preferred language selected by the panelists when they registered to be part of the panel. Each invitation to participate in the survey was password protected so that each unique respondent could only take the survey one time. The survey was confidentially administered. At the start of fielding, a dataset of early responses was examined to confirm that data for all items came in correctly, skip logic was followed and the dataset was complete.

Only panelists who had previously indicated that they are residents of the United States were eligible to receive invitations to participate in this survey. Respondents were asked to provide residency information as part of the survey to confirm that they were still U.S. residents (including American Samoa, the Commonwealth of Northern Mariana Islands, Guam, Puerto Rico and the U.S. Virgin Islands). In the case of the hazard samples, residency information was also used to confirm that respondents were residents of an eligible county or territory for that hazard sample.

The initial invitation emails were sent to a random sample of panelists. Throughout survey administration, respondents' key demographics (age, gender, race, ethnicity, education, and income) were monitored and compared to soft quotas for these demographics that were created using U.S. Census Bureau data from the 2021 Five-Year American Community Survey and the 2020 Decennial Census of Island Areas. To reach an achieved sample that more closely matched the demographic composition of the target populations for each of the samples, invitations were then sent to additional pools of potential respondents that disproportionately featured the demographic categories still needed in the samples. This process was performed iteratively throughout fielding and separately for each sample.

At the start of the survey, respondents could choose whether to take the survey in English or Spanish, regardless of the language in which they received the survey invitation. Survey responses were collected in both English and Spanish.

After completing the survey, respondents received nominal compensation in the form of gift cards or points that could be used to redeem gift cards. To confirm that surveys were not negatively impacted by the awarding of compensation, a variety of monitoring techniques were employed, such as checking for substantial deviation from the mean survey completion time, preventing multiple surveys from being completed by the same Internet Protocol (IP) address, checking for cookie

duplicates (unique identifiers) and running security checks for anyone who was previously identified as a security risk.

2.6.1. SURVEY RESULTS

The average survey response time was about 16 minutes for the national sample and between 16 and 18 minutes for each of the hazard samples.

Many more invitations were sent out to panelists than were completed by respondents. The number of panelists contacted, number of surveys completed, and response rates can be found in Table 2.

Table 2: Response Rates

Survey Language	Number of Panelists Contacted	Number of Surveys Completed	Response Rate	Sample Proportion
English	41,354	7,079	17%	93%
Spanish*	1,158	525	45%	7%
Total	**42,512**	**7,604**	**18%**	**100%**

**A small number of Spanish-language responses came from panelists outside the 1,158 that were contacted to take the survey in Spanish. The 1,158 Spanish-language panelists were contacted under an assumption that they were likely to complete the survey in Spanish, but 93 of these respondents completed the survey in English.*

7,604 survey responses were recorded, including 4,058 responses to the national sample (which had a target of 4,000), 3,029 responses across all six hazard samples (which each had a target of 500) and 517 for the American Indian, Alaska Native, Native Hawaiian or Other Pacific Islander oversample (which had a target of 500). Table 3 summarizes the distribution of responses across samples.

Table 3: Number of Survey Responses by Sample

Sample	Number of Responses	Proportion of Responses
National	4,058	53.4%
Coastal flooding	507	6.7%
Earthquake	502	6.6%
Hurricane	501	6.6%
Radiological emergency	505	6.6%
Riverine flooding	505	6.6%
Wildfire	509	6.7%

Sample	Number of Responses	Proportion of Responses
American Indian, Alaska Native, Native Hawaiian or Other Pacific Islander	517	6.8%
Total	**7,604**	**100%**

218 national sample responses were completed in Spanish, which exceeded the target of 200. Additionally, 293 hazard oversample responses and 14 American Indian, Alaska Native, Native Hawaiian or Other Pacific Islander oversample responses were completed in Spanish.

Table 4 lists the geographic distribution of responses for the national sample and the American Indian, Alaska Native, Native Hawaiian or Other Pacific Islander oversample. Each geographic division's target response count was calculated by taking the proportional share that each geographic division has of the entire U.S. adult (age 18 and older) population and applying it to the target number of 4,000 respondents. In every instance, the targets were met or exceeded.

Table 4: Geographic Distribution of Responses for Non-Hazard Samples

Geographic Division	Number of Responses for the National Sample	Number of Responses for the American Indian, Alaska Native, Native Hawaiian or Other Pacific Islander Oversample
East North Central	573	30
East South Central	237	15
Middle Atlantic	523	21
Mountain	297	117
New England	197	6
Pacific	651	142
South Atlantic	798	48
Territories	55	22
West North Central	257	37
West South Central	470	79
Total	**4,058**	**517**

3. Data Cleaning and Manipulation

3.1. Data Cleaning

All datasets were examined for data quality. Consistency checks were completed to examine skip patterns, data dependencies and missingness across variables. To confirm all skip patterns were adhered to and that response options were within specified ranges, frequencies and crosstabulations were calculated and logic checks were conducted; no errors in skip logic patterns were observed. Furthermore, each item was checked to confirm that all responses received were valid answer choices; no issues were observed. Further checks confirmed that all of the hazard samples were properly sampled exclusively within the set of counties and territories that met the hazard sample criteria.

3.2. Data Manipulation

3.2.1. IMPUTATION

Data imputation was conducted on demographic variables that were needed for weighting. In instances where values were missing or where values could not be aligned to U.S. Census Bureau data from the 2021 Five-Year American Community Survey, the following demographics were imputed: education, gender, race, disability, homeownership, income and ethnicity. Although age and geographic division were also used for weighting, no imputation was needed because all respondents were required to provide their age and state or territory of residence.

For the above variables, responses of “Don’t know” were coded to be missing so that they would be imputed. For gender, responses of “I use another term (please specify):” and “Non-binary/third gender” were recoded as “Third Gender/Other.” For homeownership, responses of “Other” were coded as missing because that category could not be matched to U.S. Census Bureau data but was required for weighting.

The hot.deck package in R version 4.1.2 was used to implement a hot.deck imputation algorithm. The default “best cell” approach was used and the seed was specified to provide reproducibility. Imputations of the data were done separately for the eight samples (national, coastal flooding, earthquake, hurricane, riverine flooding, radiological emergency, wildfire and Alaska Native, American Indian, Native Hawaiian or Other Pacific Islander).

For nearly every sample and every demographic, fewer than 5% of responses were imputed. The one exception is income for the wildfire sample, which required 6.29% of responses to be imputed.

Table 5 lists the imputation results across all respondents.

Table 5: Variable Imputation Description

Variable	Number of Imputations	Percent of Data that was Imputed
Age	0	0.00%
Education	66	0.87%
Gender	73	0.96%
Race	139	1.83%
Disability	179	2.35%
Homeownership	338	4.45%
Income	340	4.47%
Ethnicity	39	0.51%
Geographic division	0	0.00%

Across all categories within imputed demographics, the average change from imputation was 0.51 percentage points, indicating post-imputed distributions were largely approximately the same as pre-imputed. Additional statistics on imputations can be found in Appendix B: Imputation Results.

3.2.2. DATA WEIGHTING

In total, seven sets of weights were created: a core survey weight and six sets of hazard weights.

- **Core Survey Weight.** Every response received a weight to align demographic distributions more closely to the U.S. population. Most analyses are conducted using these weights for the total sample.
- **Hazard Weights.** For each of the six hazard samples, every response within the hazard sample received a second weight to align demographic distributions more closely to the population distributions of the geographic areas that met the hazard sample criteria. Analyses of hazard-specific items were conducted using these hazard weights.

Weighting was performed using a statistical rake. Raking is a weighting procedure that iteratively adjusts weights to align to marginal population distributions over a set of variables until convergence is achieved. The following demographic data, including imputed values, were used to perform the rake:

- Age (18-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80+).
- Education (less than high school diploma, high school degree or diploma, some college no degree, associate degree, bachelor's degree, post graduate work/degree or professional degree).

- Sex (female, male, third gender/other).
- Race (American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, Other, two or more races, White).
- Disability (disability, no disability).
- Homeownership (rent, own).
- Income (less than $10,000, $10,000 to $14,999, $15,000 to $24,999, $25,000 to $34,999, $35,000 to $49,999, $50,000 to $74,999, $75,000 to $99,999, $100,000 to $149,999, $150,000 to $199,999, $200,000 or more).
- Ethnicity (Hispanic/Latino, Non-Hispanic/Latino).
- Geographic division (East North Central, East South Central, Middle Atlantic, Mountain, New England, Pacific, South Atlantic, Territories, West North Central, West South Central).

Population data for the 50 states, Washington, D.C. and Puerto Rico came from the 2021 Five-Year American Community Survey estimates. Population data for the remaining territories came from the 2020 Decennial Census of Island Areas. The population estimates for the 50 states, Washington, D.C. and five U.S. territories were combined for use in the creation of the core survey weights and the radiological emergency weights (since the radiological emergency hazard was sampled from the United States and five of its territories). For each of the five other hazard samples (coastal flooding, earthquake, hurricane, riverine flooding and wildfire), population estimates for the counties and territories that met the hazard sample's geographic criteria were combined to create a set of hazard-specific weights.

As a preliminary step, demographic variables were sometimes recoded to match U.S. Census Bureau demographic values to be used for weighting. The following caveats are noteworthy regarding matching demographics to data from the 2021 Five-Year American Community Survey and the 2020 Decennial Census of Island Areas:

- Education weighting targets were derived from the data available from the U.S. Census Bureau, which only includes the population age 25 and older, not the population age 18 and older.
- Race and ethnicity weighting targets were derived from the data available from the U.S. Census Bureau, which includes people of all ages, not only the population age 18 and older.
- Disability weighting targets were derived from U.S. Census Bureau data on disability status, which is broader in scope than the way disability status was asked on the survey ("Do you have a disability or a health condition that might affect your capacity to respond to an emergency situation (a mobility, hearing, vision, cognitive or intellectual disability or physical, mental or health condition)?").

- Homeownership weighting targets were derived from U.S. Census Bureau data by multiplying the number of units by the average unit household size, and includes people of all ages, not only the population age 18 and older.

- The U.S. Census Bureau data for sex only includes two categories (female and male). Because this survey allowed for additional response options ("non-binary/third gender" and "I use another term", which were grouped together in the response data as "third gender/other"), the data could not be accurately weighted on this variable without creating a third category in the U.S. Census Bureau data. The third category was assumed to be 0.52% of the population based on research estimates by Flores et al. (2016)[3]. To maintain a total of 100% with the introduction of a third category at 0.52%, the male and female category estimates in the U.S. Census Bureau data were each reduced by 0.26 percentage points. The reduced male and female estimates and the 0.52% "third gender/other" estimate were used in the calculation of the core survey weight and each of the hazard weights.

The wildfire sample's geographic criteria included only one county from South Dakota within the West North Central geographic division. This county comprised 0.02% of the population within the geographic criteria for the wildfire sample. However, no responses were collected from respondents residing in this county. Because this was the only county in the West North Central geographic division that was included in the geographic criteria for the wildfire sample, the West North Central division could not be included as part of the weighting algorithm for the wildfire sample. The remaining geographic divisions in the wildfire sample were scaled proportionally to compensate for the missing 0.02%.

The *anesrake* procedure[4] in R 4.1.2 was used to perform the rake. The algorithm default of 5 was used as the maximum weight. Across all seven sets of weights and every demographic included in those samples, almost every demographic in every sample converged to within 1 percentage point of the target weight. The following demographics failed to converge within 1 percentage point:

- Coastal Flooding — Income: $200,000 or more (actual 7.9% vs target 10.4%).

- Coastal Flooding — Homeownership: Own (actual 58.9% vs target 60.0%).

- Coastal Flooding — Homeownership: Rent (actual 41.1% vs target 40.0%).

- Earthquake — Education: Less than high school diploma (actual 12.9% vs target 15.2%).

[3] Andrew R. Flores et al., *How Many Adults Identify as Transgender in the United States?*, The Williams Institute (Los Angeles, CA: School of Law University of California, 2016), https://williamsinstitute.law.ucla.edu/wp-content/uploads/Trans-Adults-US-Aug-2016.pdf.

[4] "ANES Raking Implementation Version 0.80," Package 'Anesrake', updated October 12, 2022, 2018, accessed July 31, 2023, https://cran.r-project.org/web/packages/anesrake/anesrake.pdf.

3.2.3. CALCULATED FIELDS

Calculated fields were added to the survey data to facilitate additional analysis. This section provides an overview of the major categories of calculated fields. Additional detail can be found in the Data and Codebook file available on the FEMA website at: https://www.fema.gov/about/openfema/data-sets/national-household-survey.

Preparedness Actions

For each of the eight events covered in the survey (a disaster, a pandemic, coastal flooding, an earthquake, a hurricane, a radiological emergency, riverine flooding and a wildfire), respondents were asked which, if any, actions out of a set of 12 preparedness actions they had done to prepare for the event in the last year. Calculated fields were created to indicate whether a respondent selected at least one preparedness action (out of the list of 12) and whether a respondent selected at least three preparedness actions (out of the list of 12).

Factors that Influence Preparedness Actions

A set of fields related to four factors that influence people to take preparedness actions (preparedness influencers) were created for each of the eight events listed above.

For each event, a field was created for each factor:

- **Awareness of preparedness information (Awareness):** Respondents were determined to have awareness of preparedness information if they indicated that they had read, seen or heard information in the past year about how to prepare for the event.
- **Disaster experience (Experience):** Respondents were determined to have disaster experience with an event if they indicated that they or their family had ever experienced the impacts of the event.
- **Preparedness efficacy (Efficacy):** Respondents were determined to have high preparedness efficacy for an event if:
    1. They indicated that taking steps to prepare would help ‘quite a bit’ or ‘a great deal’ in getting through the event, AND
    2. They indicated that they were ‘moderately confident’ or ‘extremely confident’ in their ability to take steps to prepare for the event.
- **Disaster risk perception (Risk Perception):** Respondents were determined to have risk perception for an event if they indicated that it would be ‘likely’ or ‘very likely’ for the event to impact them.

For each event, fields were also calculated to indicate whether a respondent possessed at least one, at least two, at least three or all four factors. Because respondents could respond “Don’t know,” some respondents had unknown statuses for one or more factors; in cases where respondents had

unknown statuses, the number of factors possessed by a respondent was sometimes ambiguous. Some example calculations are provided in Table 6 to clarify how these fields were constructed.

Table 6: Example Calculations of Number of Factors that Influence Preparedness Actions

Example	Awareness	Experience	Efficacy	Risk Perception	At Least 1 Factor	At Least 2 Factors	At Least 3 Factors	All 4 Factors
Example A	No	No	High	Yes	Yes	Yes	No	No
Example B	No	No	Unknown	Unknown	Unknown	Unknown	No	No
Example C	Yes	Yes	Unknown	No	Yes	Yes	Unknown	No
Example D	Unknown	Unknown	Unknown	Yes	Yes	Unknown	Unknown	Unknown

Perceived Preparedness

For each of the eight events, respondents were asked about their degree of preparedness ("Thinking about preparing yourself for [event], which of the following best represents your degree of preparedness?"). Respondents could select from five answer options. Two calculated fields were created for each event: one that grouped these five answer options into three categories, and one that grouped these five answer options into two categories:

Table 7: Calculation of Perceived Preparedness Groupings

Answer Options	Perceived Preparedness: Three Categories	Perceived Preparedness: Two Categories
I am NOT prepared, and I do not intend to prepare in the next year	Individuals with no intent to prepare	Unprepared individuals
I am NOT prepared, but I intend to start preparing in the next year	Individuals with intent to prepare	Unprepared individuals
I am NOT prepared, but I intend to get prepared in the next six months	Individuals with intent to prepare	Unprepared individuals
I have been prepared for LESS than a year	Individuals who are prepared	Prepared individuals
I have been prepared for MORE than a year and I continue preparing	Individuals who are prepared	Prepared individuals

Rurality

Respondents were categorized as "Rural" or "Urban" based on the ZIP Code or county reported by the respondent in the survey. Rurality was determined using GIS software by superimposing a shapefile of urban areas[5] on a shapefile of ZIP Code Tabulation Areas (ZCTA).[6]

- If the respondent's ZIP Code was a valid ZIP Code within the respondent's state, then the ZIP Code was used to determine the respondent's rurality designation.
    - If the respondent's ZIP Code matched directly to a ZCTA based on the ZCTA shapefile *and* if there were any urban areas in the ZCTA, then the respondent was classified as "Urban." If a respondent's ZIP Code matched directly to a ZCTA based on the ZCTA shapefile *but* there were not any urban areas in the ZCTA, then the respondent was classified as "Rural."
    - If the respondent's ZIP Code did not match directly to a ZCTA based on the ZCTA shapefile, the ZIP Code was matched to a ZCTA using a crosswalk file and the aforementioned process was performed on the matched ZCTA.[7]
    - If there was no ZCTA match for the ZIP Code, then the respondent's state and county were used to identify all ZIP Codes that were at least partially in the respondent's county using a crosswalk.[8]
        - If there were any urban areas in any of the ZIP Codes that were at least partially in the respondent's county, then the respondent was classified as "Urban." If there were no urban areas in any of the ZIP Codes that were at least partially in the respondent's county, then the respondent was classified as "Rural."
- If the respondent's ZIP Code was not a valid ZIP Code within the respondent's state, then the respondent's county was used to determine the rurality designation.
    - If any ZIP Code that was at least partially in the respondent's county included an urban area, then the respondent was classified as "Urban." If there were no urban areas in any of the ZIP Codes that were at least partially in the respondent's county, then the respondent was classified as "Rural."

[5] "Feature Catalog for the 2020 Urban Areas " TIGER/Line Shapefile (Dataset tl_rd22_us_uac20), U.S. Department of Commerce, U.S. Census Bureau, Geography Division, Spatial Data Collection and Products Branch, updated March 8, 2021, accessed July 31, 2023, https://www2.census.gov/geo/tiger/TIGER_RD18/LAYER/UAC20/.

[6] "Feature Catalog for the Current 2020 5-Digit ZIP Code Tabulation Areas (ZCTA5)," TIGER/Line Shapefile (Dataset tl_2022_us_zcta520), U.S. Department of Commerce, U.S. Census Bureau, Geography Division, Spatial Data Collection and Products Branch, updated October 31, 2022, accessed July 31, 2023, https://www2.census.gov/geo/tiger/TIGER2022/ZCTA520/.

[7] "ZIP Code to ZCTA Crosswalk," Uniform Data System (UDS) Mapper, American Academy of Family Physicians, accessed July 31, 2023, https://udsmapper.org/zip-code-to-zcta-crosswalk/.

[8] "Dataset," HUD USPS ZIP Code Crosswalk Files, U.S. Department of Housing and Urban Development, Office of Policy Development and Research, accessed July 31, 2023, https://www.huduser.gov/portal/datasets/usps_crosswalk.html.

After following the above procedure, a single respondent from Aunu'u, American Samoa did not have a rurality status designation; for this respondent, the rurality designation was determined by manual inspection of the shape files and was coded as "Rural."

Socioeconomically Disadvantaged

Respondents were categorized as "socioeconomically disadvantaged" or "not socioeconomically disadvantaged" based on the number of people living in the household, the household income (before imputation), and the state or territory that they provided on the survey. These data points were matched to the Health and Human Services Poverty Guidelines[9, 10]. Respondents who were below the poverty guideline for their household income, household size and state were categorized as "socioeconomically disadvantaged," and those above the poverty guidelines were categorized as "not socioeconomically disadvantaged." Respondents who selected "Don't know" for their household income were categorized as "Unknown."

Because the territories were not included in the guidelines, respondents from the territories were classified based on the guidelines for the 48 contiguous states and the District of Columbia. Additionally, because household income was captured on the survey in ranges, ambiguous cases sometimes occurred. Ambiguous cases were classified as "socioeconomically disadvantaged." For example, according to the guidelines, a household of four from one of the 48 continuous states had a poverty threshold of $27,750; a respondent from such a household that reported an annual household income of between $25,000 to $34,999 would have been classified as "socioeconomically disadvantaged."

Additional Demographic Groupings

Additional calculated fields grouped multiple demographic responses into fewer categories. These fields include groups for household annual income, annual rent or mortgage, whether the primary language spoken in the household is English, whether the respondent is aged 60 or older and the U.S. Census region and division of the respondent's residence (including the category "Territories," which is not an official U.S. Census division or region).

Imputation Indicators and Original Variables

For each variable with imputed values, there is a field in the dataset with the original value and a calculated field that indicates whether data has been imputed. With education for example, *education_imputed* indicates whether the value in *education* was imputed, while *education_original* indicates the original value. For race, fields of the form *race_selfid_original_[race]* indicate the original values; *race_selfid_original* indicates the values after creating the category "Two or More

[9] "2021 Poverty Guidelines," ASPE, U.S. Department of Health & Human Services, Office of the he Assistant Secretary for Planning and Evaluation accessed July 31, 2023, https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines/prior-hhs-poverty-guidelines-federal-register-references/2021-poverty-guidelines.

[10] "2022 Poverty Guidelines," ASPE, U.S. Department of Health & Human Services, Office of the he Assistant Secretary for Planning and Evaluation accessed July 31, 2023, https://aspe.hhs.gov/sites/default/files/documents/4b515876c4674466423975826ac57583/Guidelines-2022.pdf.

Races" but before imputation, *race* indicates the values after imputation and *race_imputed* indicates whether the value in *race* is an imputed value.

Additional Fields

Additional fields provided in the datasets include: a unique ID for each respondent (for respondents who were part of a hazard oversample, their unique ID is consistent across the hazard dataset and the core survey dataset), the respondent's sample designation, the weight to be used during analysis, the date and time the survey was taken, and the language in which the survey was taken.

4. Analytical Approach

Univariate analysis (e.g., number of responses, proportions, frequencies and crosstabs) were used to present findings and investigate differences across subgroups for the total sample and for hazard samples. Analyses consisted primarily of weighted calculation of percentages for categorical responses. The core survey weights were used for all analyses except for analyses of hazard-specific items. The six sets of hazard weights were used for the analysis of the hazard-specific items. All analyses were conducted using scripted solutions in Python 3.9.7, through pivot tables in Microsoft Excel, or as ad-hoc analysis conducted in Excel or Python.

5. Limitations

There are several limitations to this investigation that should be considered when interpreting results because they limit generalizability. Since data was collected using self-reported web panels, results may suffer from selection bias, social desirability bias, satisficing bias and other forms of bias, which can result in misclassification of findings. Given that the survey is not longitudinal, causality between events and survey iterations cannot be inferred. For analyses that combine data from multiple iterations of the survey, care should be taken to compare survey instruments and methodologies and note where item wording or other factors may have impacted the time series.

Appendix A: Hazard Samples Geographic Criteria

Table A – 1: Counties and Territories Eligible for the Coastal Flooding Sample

STCOFIPS	COUNTY	STATE	CFLD_RISKS
34029	Ocean	New Jersey	100.00
12086	Miami-Dade	Florida	94.01
53027	Grays Harbor	Washington	83.64
34017	Hudson	New Jersey	82.96
36047	Kings	New York	79.97
41007	Clatsop	Oregon	74.81
34001	Atlantic	New Jersey	67.54
48061	Cameron	Texas	61.44
34009	Cape May	New Jersey	55.38
53049	Pacific	Washington	52.18
42101	Philadelphia	Pennsylvania	51.53
12011	Broward	Florida	50.78
53069	Wahkiakum	Washington	49.87
12071	Lee	Florida	47.17
53057	Skagit	Washington	43.87
12103	Pinellas	Florida	42.92
53033	King	Washington	41.41
12009	Brevard	Florida	40.81
12021	Collier	Florida	40.56
34003	Bergen	New Jersey	40.48
51001	Accomack	Virginia	40.40
53015	Cowlitz	Washington	39.30
10005	Sussex	Delaware	38.37

STCOFIPS	COUNTY	STATE	CFLD_RISKS
12127	Volusia	Florida	37.64
12015	Charlotte	Florida	37.13
41057	Tillamook	Oregon	36.76
12099	Palm Beach	Florida	35.28
53029	Island	Washington	34.44
22051	Jefferson	Louisiana	34.24
53009	Clallam	Washington	33.72
12087	Monroe	Florida	33.42
12061	Indian River	Florida	32.97
12115	Sarasota	Florida	32.69
22071	Orleans	Louisiana	32.61
34011	Cumberland	New Jersey	32.46
51103	Lancaster	Virginia	32.15
12111	St. Lucie	Florida	31.70
12031	Duval	Florida	31.56
53073	Whatcom	Washington	30.84
12081	Manatee	Florida	30.40
12085	Martin	Florida	29.60
24041	Talbot	Maryland	29.35
53031	Jefferson	Washington	29.24
36081	Queens	New York	29.06
41041	Lincoln	Oregon	28.93
22109	Terrebonne	Louisiana	27.68
45013	Beaufort	South Carolina	27.41
12017	Citrus	Florida	27.19
34025	Monmouth	New Jersey	26.84
12035	Flagler	Florida	26.80

Table A – 2: Counties and Territories Eligible for the Earthquake Sample

STCOFIPS	COUNTY	STATE	ERQK_RISKS
06037	Los Angeles	California	100.00
06065	Riverside	California	51.85
06071	San Bernardino	California	50.93
06025	Imperial	California	45.14
06001	Alameda	California	40.79
06059	Orange	California	39.05
32003	Clark	Nevada	36.66
15001	Hawaii	Hawaii	36.35
06073	San Diego	California	34.62
06075	San Francisco	California	34.43
06053	Monterey	California	33.15
36005	Bronx	New York	32.38
41051	Multnomah	Oregon	30.61
06097	Sonoma	California	30.08
36047	Kings	New York	30.00
06029	Kern	California	29.25
06019	Fresno	California	29.21
06013	Contra Costa	California	28.92
32031	Washoe	Nevada	28.72
47157	Shelby	Tennessee	28.02
06077	San Joaquin	California	27.78
41047	Marion	Oregon	27.73
06067	Sacramento	California	27.68
06023	Humboldt	California	26.77
06111	Ventura	California	26.17
06083	Santa Barbara	California	25.81

STCOFIPS	COUNTY	STATE	ERQK_RISKS
41039	Lane	Oregon	25.64
53033	King	Washington	25.16
36061	New York	New York	24.57
36081	Queens	New York	24.00
53053	Pierce	Washington	23.97
41011	Coos	Oregon	23.78
45019	Charleston	South Carolina	23.67
06095	Solano	California	23.64
29510	St. Louis	Missouri	23.62
06085	Santa Clara	California	23.24
06081	San Mateo	California	23.23
06089	Shasta	California	23.12
06099	Stanislaus	California	23.05
48141	El Paso	Texas	22.95
15003	Honolulu	Hawaii	22.92
53027	Grays Harbor	Washington	22.30
41041	Lincoln	Oregon	22.28
06045	Mendocino	California	22.19
06107	Tulare	California	22.12
04027	Yuma	Arizona	21.51
06047	Merced	California	21.20
41029	Jackson	Oregon	21.11
06033	Lake	California	20.91
06007	Butte	California	20.65
N/A	N/A *(all localities*)*	Puerto Rico	N/A

**Localities for Puerto Rico include county equivalents (i.e., municipalities).*

Table A – 3: Counties and Territories Eligible for the Hurricane Sample

STCOFIPS	COUNTY	STATE	HRCN_RISKS
48201	Harris	Texas	100.00
12099	Palm Beach	Florida	81.14
22071	Orleans	Louisiana	80.14
48061	Cameron	Texas	67.11
12071	Lee	Florida	66.61
12111	St. Lucie	Florida	66.09
12061	Indian River	Florida	59.22
12086	Miami-Dade	Florida	58.93
12015	Charlotte	Florida	54.14
48167	Galveston	Texas	52.18
01097	Mobile	Alabama	50.66
12127	Volusia	Florida	49.92
12055	Highlands	Florida	48.93
48355	Nueces	Texas	48.92
48245	Jefferson	Texas	48.82
28047	Harrison	Mississippi	48.76
12085	Martin	Florida	48.39
12033	Escambia	Florida	41.78
37129	New Hanover	North Carolina	40.59
48409	San Patricio	Texas	40.27
48321	Matagorda	Texas	39.99
22051	Jefferson	Louisiana	38.79
48007	Aransas	Texas	38.60
28059	Jackson	Mississippi	35.52
48339	Montgomery	Texas	34.68
12005	Bay	Florida	33.40

STCOFIPS	COUNTY	STATE	HRCN_RISKS
12009	Brevard	Florida	33.00
48039	Brazoria	Texas	32.73
22117	Washington	Louisiana	31.68
22103	St. Tammany	Louisiana	31.27
37013	Beaufort	North Carolina	29.83
37031	Carteret	North Carolina	29.73
12011	Broward	Florida	28.91
37055	Dare	North Carolina	28.60
48157	Fort Bend	Texas	28.34
45041	Florence	South Carolina	28.06
12117	Seminole	Florida	27.77
22019	Calcasieu	Louisiana	27.64
28035	Forrest	Mississippi	27.55
48361	Orange	Texas	27.13
28109	Pearl River	Mississippi	26.72
48291	Liberty	Texas	25.67
28045	Hancock	Mississippi	25.22
37141	Pender	North Carolina	24.16
12001	Alachua	Florida	23.92
22087	St. Bernard	Louisiana	21.77
45079	Richland	South Carolina	21.64
12109	St. Johns	Florida	17.39
22075	Plaquemines	Louisiana	13.75
48071	Chambers	Texas	8.76
N/A	N/A *(all localities*)*	All Territories	N/A

**Localities for territories include county equivalents (i.e., atolls, districts, municipalities and villages).*

Table A – 4: Counties and Territories Eligible for the Riverine Flooding Sample

STCOFIPS	COUNTY	STATE	RFLD_RISKS
48201	Harris	Texas	100.00
12086	Miami-Dade	Florida	77.21
36005	Bronx	New York	68.46
48427	Starr	Texas	61.73
48061	Cameron	Texas	60.02
47157	Shelby	Tennessee	52.41
26163	Wayne	Michigan	49.59
12071	Lee	Florida	49.56
48167	Galveston	Texas	48.59
48141	El Paso	Texas	48.40
48029	Bexar	Texas	48.10
36047	Kings	New York	46.60
48465	Val Verde	Texas	42.31
48215	Hidalgo	Texas	42.02
47037	Davidson	Tennessee	41.98
35031	McKinley	New Mexico	41.75
32031	Washoe	Nevada	41.32
17031	Cook	Illinois	40.86
48245	Jefferson	Texas	40.80
22033	East Baton Rouge	Louisiana	39.82
49053	Washington	Utah	39.26
01073	Jefferson	Alabama	38.91
06071	San Bernardino	California	36.72
04015	Mohave	Arizona	36.00
48177	Gonzales	Texas	35.91
48299	Llano	Texas	35.15

STCOFIPS	COUNTY	STATE	RFLD_RISKS
28049	Hinds	Mississippi	34.64
22055	Lafayette	Louisiana	33.81
12099	Palm Beach	Florida	33.31
48489	Willacy	Texas	33.26
32003	Clark	Nevada	32.94
36061	New York	New York	32.74
04007	Gila	Arizona	32.52
48463	Uvalde	Texas	32.37
48385	Real	Texas	31.91
04019	Pima	Arizona	31.70
35035	Otero	New Mexico	31.54
06019	Fresno	California	31.15
48507	Zavala	Texas	31.10
22097	St. Landry	Louisiana	30.52
06065	Riverside	California	30.27
42079	Luzerne	Pennsylvania	30.22
48123	DeWitt	Texas	30.06
48039	Brazoria	Texas	29.86
48055	Caldwell	Texas	28.88
12105	Polk	Florida	28.77
34029	Ocean	New Jersey	28.65
54047	McDowell	West Virginia	28.53
06111	Ventura	California	28.50
42101	Philadelphia	Pennsylvania	28.42

Table A – 5: Counties and Territories Eligible for the Wildfire Sample

STCOFIPS	COUNTY	STATE	WFIR_RISKS
06065	Riverside	California	100.00
06037	Los Angeles	California	89.59
06073	San Diego	California	83.83
06071	San Bernardino	California	74.86
04017	Navajo	Arizona	74.83
04007	Gila	Arizona	70.57
04025	Yavapai	Arizona	63.96
04005	Coconino	Arizona	57.87
12083	Marion	Florida	57.42
04019	Pima	Arizona	56.48
12086	Miami-Dade	Florida	54.45
06039	Madera	California	51.74
12071	Lee	Florida	51.05
12009	Brevard	Florida	50.02
35035	Otero	New Mexico	49.63
12105	Polk	Florida	48.54
12127	Volusia	Florida	47.53
12021	Collier	Florida	46.53
06029	Kern	California	46.17
04001	Apache	Arizona	45.53
12015	Charlotte	Florida	45.42
12097	Osceola	Florida	45.01
12017	Citrus	Florida	43.94
04015	Mohave	Arizona	43.64
13127	Glynn	Georgia	43.34
12069	Lake	Florida	43.11

STCOFIPS	COUNTY	STATE	WFIR_RISKS
06019	Fresno	California	42.97
46102	Oglala Lakota	South Dakota	42.30
06109	Tuolumne	California	42.15
04013	Maricopa	Arizona	41.92
12011	Broward	Florida	41.79
49053	Washington	Utah	41.64
06033	Lake	California	41.63
06043	Mariposa	California	41.59
12099	Palm Beach	Florida	41.31
35027	Lincoln	New Mexico	41.17
12115	Sarasota	Florida	41.10
32003	Clark	Nevada	40.74
06111	Ventura	California	40.35
12095	Orange	Florida	40.20
06053	Monterey	California	38.73
06089	Shasta	California	37.95
12055	Highlands	Florida	37.54
35017	Grant	New Mexico	37.50
06083	Santa Barbara	California	37.47
06059	Orange	California	37.44
35049	Santa Fe	New Mexico	37.20
06007	Butte	California	36.30
06087	Santa Cruz	California	36.30
06009	Calaveras	California	36.28

Appendix B: Imputation Results

Note: “pt” refers to percentage point. Percentages may not add up exactly to 100.00% due to rounding.

1. National Sample

Table B1 - 1: Disability

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Yes	930	22.92%	953 (23)	23.48% (0.56 pt)
No	3027	74.59%	3105 (78)	76.52% (1.93 pt)
Don’t know	101	2.49%	—	—

Table B1 - 2: Education

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than high school diploma	148	3.65%	151 (3)	3.72% (0.07 pt)
High school degree or diploma	1024	25.23%	1033 (9)	25.46% (0.23 pt)
Some college, no degree	908	22.38%	912 (4)	22.47% (0.09 pt)
Associate degree	472	11.63%	476 (4)	11.73% (0.10 pt)
Bachelor’s degree	926	22.82%	932 (6)	22.97% (0.15 pt)
Post graduate work/degree or professional degree	547	13.48%	554 (7)	13.65% (0.17 pt)
Don’t know	33	0.81%	—	—

Table B1 - 3: Ethnicity

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Hispanic	679	16.73%	685 (6)	16.88% (0.15 pt)

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Non-Hispanic	3358	82.75%	3373 (15)	83.12% (0.37 pt)
Don't know	21	0.52%	—	—

Table B1 - 4: Gender

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Female	2056	50.67%	2079 (23)	51.23% (0.56 pt)
Male	1933	47.63%	1951 (18)	48.08% (0.45 pt)
Non-binary/third gender*	23	0.57%	28 (0)	0.69% (0.00 pt)
I use another term (specify)*	5	0.12%	—	—
Don't know	41	1.01%	—	—

**Responses of "I use another term (specify)" were automatically recoded as "Non-binary/third gender" and were not imputed.*

Table B1 - 5: Homeownership

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Own	2543	62.67%	2620 (77)	64.56% (1.89 pt)
Rent	1348	33.22%	1438 (90)	35.44% (2.22 pt)
Other (specify)	121	2.98%	—	—
Don't know	46	1.13%	—	—

Table B1 - 6: Income

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than $10,000	282	6.95%	302 (20)	7.44% (0.49 pt)
$10,000 to $14,999	174	4.29%	187 (13)	4.61% (0.32 pt)

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
$15,000 to $24,999	360	8.87%	385 (25)	9.49% (0.62 pt)
$25,000 to $34,999	403	9.93%	425 (22)	10.47% (0.54 pt)
$35,000 to $49,999	509	12.54%	527 (18)	12.99% (0.45 pt)
$50,000 to $74,999	730	17.99%	763 (33)	18.80% (0.81 pt)
$75,000 to $99,999	525	12.94%	557 (32)	13.73% (0.79 pt)
$100,000 to $149,999	549	13.53%	567 (18)	13.97% (0.44 pt)
$150,000 to $199,999	203	5.00%	207 (4)	5.10% (0.10 pt)
$200,000 or more	135	3.33%	138 (3)	3.40% (0.07 pt)
Don’t know	188	4.63%	—	—

Table B1 - 7: Race

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
White	2917	71.88%	2946 (29)	72.60% (0.72 pt)
Black or African American	546	13.45%	561 (15)	13.82% (0.37 pt)
Asian	174	4.29%	174 (0)	4.29% (0.00 pt)
American Indian or Alaska Native	45	1.11%	46 (1)	1.13% (0.02 pt)
Native Hawaiian or Other Pacific Islander	24	0.59%	24 (0)	0.59% (0.00 pt)
Two or more races	144	3.55%	147 (3)	3.62% (0.07 pt)
Other	150	3.70%	160 (10)	3.94% (0.24 pt)
Don’t know	58	1.43%	--	—

2. American Indian, Alaska Native, Native Hawaiian or Other Pacific Islander

Table B2 - 1: Disability

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Yes	178	34.43%	180 (2)	34.82% (0.39 pt)
No	333	64.41%	337 (4)	65.18% (0.77 pt)
Don't know	6	1.16%	—	—

Table B2 - 2: Education

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than high school diploma	36	6.96%	36 (0)	6.96% (0.00 pt)
High school degree or diploma	141	27.27%	144 (3)	27.85% (0.58 pt)
Some college, no degree	150	29.01%	150 (0)	29.01% (0.00 pt)
Associate degree	59	11.41%	59 (0)	11.41% (0.00 pt)
Bachelor's degree	83	16.05%	84 (1)	16.25% (0.20 pt)
Post graduate work/degree or professional degree	44	8.51%	44 (0)	8.51% (0.00 pt)
Don't know	4	0.77%	—	—

Table B2 - 3: Ethnicity

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Hispanic	174	33.66%	175 (1)	33.85% (0.19 pt)
Non-Hispanic	339	65.57%	342 (3)	66.15% (0.58 pt)
Don't know	4	0.77%	—	—

Table B2 - 4: Gender

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Female	297	57.45%	298 (1)	57.64% (0.19 pt)
Male	209	40.43%	212 (3)	41.01% (0.58 pt)
Non-binary/third gender*	7	1.35%	7 (0)	1.35% (0.00 pt)
I use another term (specify)*	0	0.00%	—	—
Don't know	4	0.77%	—	—

**Responses of "I use another term (specify)" were automatically recoded as "Non-binary/third gender" and were not imputed.*

Table B2 - 5: Homeownership

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Own	219	42.36%	235 (16)	45.45% (3.09 pt)
Rent	257	49.71%	282 (25)	54.55% (4.84 pt)
Other (specify)	34	6.58%	—	—
Don't know	7	1.35%	—	—

Table B2 - 6: Income

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than $10,000	65	12.57%	67 (2)	12.96% (0.39 pt)
$10,000 to $14,999	43	8.32%	45 (2)	8.70% (0.38 pt)
$15,000 to $24,999	51	9.86%	52 (1)	10.06% (0.20 pt)
$25,000 to $34,999	79	15.28%	81 (2)	15.67% (0.39 pt)
$35,000 to $49,999	83	16.05%	87 (4)	16.83% (0.78 pt)
$50,000 to $74,999	80	15.47%	80 (0)	15.47% (0.00 pt)

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
$75,000 to $99,999	46	8.90%	50 (4)	9.67% (0.77 pt)
$100,000 to $149,999	36	6.96%	37 (1)	7.16% (0.20 pt)
$150,000 to $199,999	14	2.71%	14 (0)	2.71% (0.00 pt)
$200,000 or more	4	0.77%	4 (0)	0.77% (0.00 pt)
Don't know	16	3.09%	—	—

Table B2 - 7: Race

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
White	0	0.00%	0 (0)	0.00% (0.00 pt)
Black or African American	0	0.00%	0 (0)	0.00% (0.00 pt)
Asian	0	0.00%	0 (0)	0.00% (0.00 pt)
American Indian or Alaska Native	269	52.03%	269 (0)	52.03% (0.00 pt)
Native Hawaiian or Other Pacific Islander	75	14.51%	75 (0)	14.51% (0.00 pt)
Two or more races	173	33.46%	173 (0)	33.46% (0.00 pt)
Other	0	0.00%	0 (0)	0.00% (0.00 pt)
Don't know	0	0.00%	--	—

3. Coastal Flooding Sample

Table 3B - 1: Disability

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Yes	102	20.12%	105 (3)	20.71% (0.59 pt)
No	393	77.51%	402 (9)	79.29% (1.78 pt)

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Don't know	12	2.37%	—	—

Table 3B - 2: Education

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than high school diploma	23	4.54%	23 (0)	4.54% (0.00 pt)
High school degree or diploma	128	25.25%	129 (1)	25.44% (0.19 pt)
Some college, no degree	106	20.91%	107 (1)	21.10% (0.19 pt)
Associate degree	72	14.20%	77 (5)	15.19% (0.99 pt)
Bachelor's degree	122	24.06%	122 (0)	24.06% (0.00 pt)
Post graduate work/degree or professional degree	49	9.66%	49 (0)	9.66% (0.00 pt)
Don't know	7	1.38%	—	—

Table 3B - 3: Ethnicity

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Hispanic	91	17.95%	91 (0)	17.95% (0.00 pt)
Non-Hispanic	414	81.66%	416 (2)	82.05% (0.39 pt)
Don't know	2	0.39%	—	—

Table 3B - 4: Gender

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Female	251	49.51%	254 (3)	50.10% (0.59 pt)
Male	245	48.32%	249 (4)	49.11% (0.79 pt)
Non-binary/third gender*	3	0.59%	4 (0)	0.79% (0.00 pt)

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
I use another term (specify)*	1	0.20 %	—	—
Don't know	7	1.38%	—	—

**Responses of "I use another term (specify)" were automatically recoded as "Non-binary/third gender" and were not imputed.*

Table 3B - 5: Homeownership

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Own	266	52.47%	278 (12)	54.83% (2.36 pt)
Rent	218	43.00%	229 (11)	45.17% (2.17 pt)
Other (specify)	16	3.16%	—	—
Don't know	7	1.38%	—	—

Table 3B - 6: Income

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than $10,000	48	9.47%	49 (1)	9.66% (0.19 pt)
$10,000 to $14,999	28	5.52%	28 (0)	5.52% (0.00 pt)
$15,000 to $24,999	34	6.71%	36 (2)	7.10% (0.39 pt)
$25,000 to $34,999	50	9.86%	54 (4)	10.65% (0.79 pt)
$35,000 to $49,999	66	13.02%	69 (3)	13.61% (0.59 pt)
$50,000 to $74,999	103	20.32%	104 (1)	20.51% (0.19 pt)
$75,000 to $99,999	61	12.03%	64 (3)	12.62% (0.59 pt)
$100,000 to $149,999	62	12.23%	64 (2)	12.62% (0.39 pt)
$150,000 to $199,999	29	5.72%	31 (2)	6.11% (0.39 pt)
$200,000 or more	8	1.58%	8 (0)	1.58% (0.00 pt)
Don't know	18	3.55%	—	—

Table 3B - 7: Race

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
White	368	72.58%	371 (3)	73.18% (0.60 pt)
Black or African American	75	14.79%	75 (0)	14.79% (0.00 pt)
Asian	23	4.54%	23 (0)	4.54% (0.00 pt)
American Indian or Alaska Native	5	0.99%	5 (0)	0.99% (0.00 pt)
Native Hawaiian or Other Pacific Islander	1	0.20%	1 (0)	0.20% (0.00 pt)
Two or more races	8	1.58%	8 (0)	1.58% (0.00 pt)
Other	23	4.54%	24 (1)	4.73% (0.19 pt)
Don't know	4	0.79%	--	—

4. Earthquake Sample

Table 4B - 1: Disability

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Yes	107	21.31%	109 (2)	21.71% (0.40 pt)
No	384	76.49%	393 (9)	78.29% (1.80 pt)
Don't know	11	2.19%	—	—

Table 4B - 2: Education

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than high school diploma	13	2.59%	13 (0)	2.59% (0.00 pt)
High school degree or diploma	123	24.50%	123 (0)	24.50% (0.00 pt)
Some college, no degree	114	22.71%	114 (0)	22.71% (0.00 pt)

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Associate degree	53	10.56%	54 (1)	10.76% (0.20 pt)
Bachelor's degree	120	23.90%	120 (0)	23.90% (0.00 pt)
Post graduate work/degree or professional degree	78	15.54%	78 (0)	15.54% (0.00 pt)
Don't know	1	0.20%	—	—

Table 4B - 3: Ethnicity

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Hispanic	153	30.48%	156 (3)	31.08% (0.60 pt)
Non-Hispanic	344	68.53%	346 (2)	68.92% (0.39 pt)
Don't know	5	1.00%	—	—

Table 4B - 4: Gender

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Female	256	51.00%	258 (2)	51.39% (0.39 pt)
Male	242	48.21%	243 (1)	48.41% (0.20 pt)
Non-binary/third gender*	1	0.20%	1 (0)	0.20% (0.00 pt)
I use another term (specify)*	0	0.00%	—	—
Don't know	3	0.60%	—	—

**Responses of "I use another term (specify)" were automatically recoded as "Non-binary/third gender" and were not imputed.*

Table 4B - 5: Homeownership

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Own	277	55.18%	282 (5)	56.18 % (1.00 pt)

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Rent	210	41.83%	220 (10)	43.82% (1.99 pt)
Other (specify)	11	2.19%	—	—
Don't know	4	0.80%	—	—

Table 4B - 6: Income

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than $10,000	41	8.17%	42 (1)	8.37% (0.20 pt)
$10,000 to $14,999	32	6.37%	33 (1)	6.57% (0.20 pt)
$15,000 to $24,999	42	8.37%	45 (3)	8.96% (0.59 pt)
$25,000 to $34,999	43	8.57%	46 (3)	9.16% (0.59 pt)
$35,000 to $49,999	58	11.55%	58 (0)	11.55% (0.00 pt)
$50,000 to $74,999	67	13.35%	70 (3)	13.94% (0.59 pt)
$75,000 to $99,999	54	10.76%	59 (5)	11.75% (0.99 pt)
$100,000 to $149,999	67	13.35%	69 (2)	13.75% (0.40 pt)
$150,000 to $199,999	48	9.56%	48 (0)	9.56% (0.00 pt)
$200,000 or more	30	5.98%	32 (2)	6.37% (0.39 pt)
Don't know	20	3.98%	—	—

Table 4B - 7: Race

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
White	301	59.96%	311 (10)	61.95% (1.99 pt)
Black or African American	57	11.35%	58 (1)	11.55% (0.20 pt)
Asian	64	12.75%	65 (1)	12.95% (0.20 pt)

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
American Indian or Alaska Native	5	1.00%	5 (0)	1.00% (0.00 pt)
Native Hawaiian or Other Pacific Islander	12	2.39%	13 (1)	2.59% (0.20 pt)
Two or more races	17	3.39%	18 (1)	3.59% (0.20 pt)
Other	28	5.58%	32 (4)	6.37% (0.79 pt)
Don't know	18	3.59%	--	—

5. Hurricane Sample

Table 5B - 1: Disability

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Yes	107	21.36%	108 (1)	21.56% (0.20 pt)
No	385	76.85%	393 (8)	78.44% (1.59 pt)
Don't know	9	1.80%	—	—

Table 5B - 2: Education

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than high school diploma	41	8.18%	42 (1)	8.38% (0.20 pt)
High school degree or diploma	105	20.96%	106 (1)	21.16% (0.20 pt)
Some college, no degree	95	18.96%	96 (1)	19.16% (0.20 pt)
Associate degree	65	12.97%	66 (1)	13.17% (0.20 pt)
Bachelor's degree	122	24.35%	123 (1)	24.55% (0.20 pt)
Post graduate work/degree or professional degree	68	13.57%	68 (0)	13.57% (0.00 pt)
Don't know	5	1.00%	—	—

Table 5B - 3: Ethnicity

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Hispanic	189	37.72%	190 (1)	37.92% (0.20 pt)
Non-Hispanic	309	61.68%	311 (2)	62.08% (0.40 pt)
Don't know	3	0.60%	—	—

Table 5B - 4: Gender

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Female	267	53.29%	268 (1)	53.49% (0.20 pt)
Male	228	45.51%	228 (0)	45.51% (0.00 pt)
Non-binary/third gender*	2	0.40%	5 (0)	1.00% (0.00 pt)
I use another term (specify)*	3	0.60%	—	—
Don't know	1	0.20%	—	—

**Responses of "I use another term (specify)" were automatically recoded as "Non-binary/third gender" and were not imputed.*

Table 5B - 5: Homeownership

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Own	277	55.29%	288 (11)	57.49% (2.20 pt)
Rent	206	41.12%	213 (7)	42.51% (1.39 pt)
Other (specify)	10	2.00%	—	—
Don't know	8	1.60%	—	—

Table 5B - 6: Income

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than $10,000	46	9.18%	51 (5)	10.18% (1.00 pt)

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
$10,000 to $14,999	39	7.78%	39 (0)	7.78% (0.00 pt)
$15,000 to $24,999	50	9.98%	54 (4)	10.78% (0.80 pt)
$25,000 to $34,999	51	10.18%	52 (1)	10.38% (0.20 pt)
$35,000 to $49,999	60	11.98%	63 (3)	12.57% (0.59 pt)
$50,000 to $74,999	95	18.96%	98 (3)	19.56% (0.60 pt)
$75,000 to $99,999	71	14.17%	72 (1)	14.37% (0.20 pt)
$100,000 to $149,999	40	7.98%	43 (3)	8.58% (0.60 pt)
$150,000 to $199,999	19	3.79%	19 (0)	3.79% (0.00 pt)
$200,000 or more	9	1.80%	10 (1)	2.00% (0.20 pt)
Don’t know	21	4.19%	—	—

Table 5B - 7: Race

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
White	350	69.86%	359 (9)	71.66% (1.80 pt)
Black or African American	68	13.57%	70 (2)	13.97% (0.40 pt)
Asian	15	2.99%	15 (0)	2.99% (0.00 pt)
American Indian or Alaska Native	5	1.00%	5 (0)	1.00% (0.00 pt)
Native Hawaiian or Other Pacific Islander	1	0.20%	1 (0)	0.20% (0.00 pt)
Two or more races	13	2.59%	14 (1)	2.79% (0.20 pt)
Other	34	6.79%	37 (3)	7.39% (0.60 pt)
Don’t know	15	2.99%	--	—

6. Radiological Emergency Sample

Table 6B - 1: Disability

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Yes	146	28.91%	151 (5)	29.90% (0.99 pt)
No	346	68.51%	354 (8)	70.10% (1.59 pt)
Don't know	13	2.57%	—	—

Table 6B - 2: Education

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than high school diploma	35	6.93%	35 (0)	6.93% (0.00 pt)
High school degree or diploma	131	25.94%	132 (1)	26.14% (0.20 pt)
Some college, no degree	118	23.37%	118 (0)	23.37% (0.00 pt)
Associate degree	46	9.11%	46 (0)	9.11% (0.00 pt)
Bachelor's degree	98	19.41%	98 (0)	19.41% (0.00 pt)
Post graduate work/degree or professional degree	76	15.05%	76 (0)	15.05% (0.00 pt)
Don't know	1	0.20%	—	—

Table 6B - 3: Ethnicity

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Hispanic	68	13.47%	68 (0)	13.47% (0.00 pt)
Non-Hispanic	436	86.34%	437 (1)	86.53% (0.19 pt)
Don't know	1	0.20%	—	—

Table 6B - 4: Gender

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Female	251	49.70%	252 (1)	49.90% (0.20 pt)
Male	248	49.11%	249 (1)	49.31% (0.20 pt)
Non-binary/third gender*	2	0.40%	4 (0)	0.79% (0.00 pt)
I use another term (specify)*	2	0.40%	—	—
Don't know	2	0.40%	—	—

**Responses of "I use another term (specify)" were automatically recoded as "Non-binary/third gender" and were not imputed.*

Table 6B - 5: Homeownership

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Own	332	65.74%	348 (16)	68.91% (3.17 pt)
Rent	151	29.90%	157 (6)	31.09% (1.19 pt)
Other (specify)	16	3.17%	—	—
Don't know	6	1.19%	—	—

Table 6B - 6: Income

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than $10,000	33	6.53%	37 (4)	7.33% (0.80 pt)
$10,000 to $14,999	18	3.56%	20 (2)	3.96% (0.40 pt)
$15,000 to $24,999	49	9.70%	51 (2)	10.10% (0.40 pt)
$25,000 to $34,999	44	8.71%	50 (6)	9.90% (1.19 pt)
$35,000 to $49,999	52	10.30%	54 (2)	10.69% (0.39 pt)
$50,000 to $74,999	90	17.82%	93 (3)	18.42% (0.60 pt)
$75,000 to $99,999	49	9.70%	50 (1)	9.90% (0.20 pt)

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
$100,000 to $149,999	65	12.87%	65 (0)	12.87% (0.00 pt)
$150,000 to $199,999	50	9.90%	53 (3)	10.50% (0.60 pt)
$200,000 or more	32	6.34%	32 (0)	6.34% (0.00 pt)
Don't know	23	4.55%	—	—

Table 6B - 7: Race

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
White	380	75.25%	386 (6)	76.44% (1.19 pt)
Black or African American	65	12.87%	67 (2)	13.27% (0.40 pt)
Asian	13	2.57%	13 (0)	2.57% (0.00 pt)
American Indian or Alaska Native	2	0.40%	2 (0)	0.40% (0.00 pt)
Native Hawaiian or Other Pacific Islander	2	0.40%	2 (0)	0.40% (0.00 pt)
Two or more races	15	2.97%	17 (2)	3.37% (0.40 pt)
Other	16	3.17%	18 (2)	3.56% (0.39 pt)
Don't know	12	2.38%	--	—

7. Riverine Flooding Sample

Table 7B - 1: Disability

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Yes	111	21.98%	116 (5)	22.97% (0.99 pt)
No	380	75.25%	389 (9)	77.03% (1.78 pt)
Don't know	14	2.77%	—	—

Table 7B - 2: Education

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than high school diploma	41	8.12%	41 (0)	8.12% (0.00 pt)
High school degree or diploma	115	22.77%	117 (2)	23.17% (0.40 pt)
Some college, no degree	94	18.61%	94 (0)	18.61% (0.00 pt)
Associate degree	51	10.10%	52 (1)	10.30% (0.20 pt)
Bachelor's degree	120	23.76%	122 (2)	24.16% (0.40 pt)
Post graduate work/degree or professional degree	79	15.64%	79 (0)	15.64% (0.00 pt)
Don't know	5	0.99%	—	—

Table 7B - 3: Ethnicity

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Hispanic	157	31.09%	158 (1)	31.29% (0.20 pt)
Non-Hispanic	347	68.71%	347 (0)	68.71% (0.00 pt)
Don't know	1	0.20%	—	—

Table 7B - 4: Gender

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Female	249	49.31%	252 (3)	49.90% (0.59 pt)
Male	245	48.51%	249 (4)	49.31% (0.80 pt)
Non-binary/third gender*	2	0.40%	4 (0)	0.79% (0.00 pt)
I use another term (specify)*	2	0.40%	—	—
Don't know	7	1.39%	—	—

**Responses of "I use another term (specify)" were automatically recoded as "Non-binary/third gender" and were not imputed.*

Table 7B - 5: Homeownership

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Own	291	57.62%	301 (10)	59.60% (1.98 pt)
Rent	190	37.62%	204 (14)	40.40% (2.78 pt)
Other (specify)	14	2.77%	—	—
Don't know	10	1.98%	—	—

Table 7B - 6: Income

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than $10,000	40	7.92%	40 (0)	7.92% (0.00 pt)
$10,000 to $14,999	34	6.73%	34 (0)	6.73% (0.00 pt)
$15,000 to $24,999	33	6.53%	33 (0)	6.53% (0.00 pt)
$25,000 to $34,999	49	9.70%	50 (1)	9.90% (0.20 pt)
$35,000 to $49,999	52	10.30%	58 (6)	11.49% (1.19 pt)
$50,000 to $74,999	84	16.63%	90 (6)	17.82% (1.19 pt)
$75,000 to $99,999	59	11.68%	64 (5)	12.67% (0.99 pt)
$100,000 to $149,999	49	9.70%	50 (1)	9.90% (0.20 pt)
$150,000 to $199,999	37	7.33%	39 (2)	7.72% (0.39 pt)
$200,000 or more	46	9.11%	47 (1)	9.31% (0.20 pt)
Don't know	22	4.36%	—	—

Table 7B - 7: Race

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
White	329	65.15%	334 (5)	66.14% (0.99 pt)
Black or African American	89	17.62%	91 (2)	18.02% (0.40 pt)

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Asian	20	3.96%	20 (0)	3.96% (0.00 pt)
American Indian or Alaska Native	4	0.79%	4 (0)	0.79% (0.00 pt)
Native Hawaiian or Other Pacific Islander	4	0.79%	4 (0)	0.79% (0.00 pt)
Two or more races	15	2.97%	17 (2)	3.37% (0.40 pt)
Other	32	6.34%	35 (3)	6.93% (0.59 pt)
Don't know	12	2.38%	--	—

8. Wildfire Sample

Table 8B - 1: Disability

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Yes	129	25.34%	133 (4)	26.13% (0.79 pt)
No	367	72.10%	376 (9)	73.87% (1.77 pt)
Don't know	13	2.55%	—	—

Table 8B - 2: Education

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than high school diploma	37	7.27%	38 (1)	7.47% (0.20 pt)
High school degree or diploma	137	26.92%	142 (5)	27.90% (0.98 pt)
Some college, no degree	118	23.18%	119 (1)	23.38% (0.20 pt)
Associate degree	59	11.59%	59 (0)	11.59% (0.00 pt)
Bachelor's degree	100	19.65%	103 (3)	20.24% (0.59 pt)
Post graduate work/degree or professional degree	48	9.43%	48 (0)	9.43% (0.00 pt)

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Don't know	10	1.96%	—	—

Table 8B - 3: Ethnicity

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Hispanic	190	37.33%	190 (0)	37.33% (0.00 pt)
Non-Hispanic	317	62.28%	319 (2)	62.67% (0.39 pt)
Don't know	2	0.39%	—	—

Table 8B - 4: Gender

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Female	253	49.71%	257 (4)	50.49% (0.78 pt)
Male	246	48.33%	250 (4)	49.12% (0.79 pt)
Non-binary/third gender*	1	0.20%	2 (0)	0.39% (0.00 pt)
I use another term (specify)*	1	0.20%	—	—
Don't know	8	1.57%	—	—

**Responses of "I use another term (specify)" were automatically recoded as "Non-binary/third gender" and were not imputed.*

Table 8B - 5: Homeownership

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Own	265	52.06%	274 (9)	53.83% (1.77 pt)
Rent	216	42.44%	235 (19)	46.17% (3.73 pt)
Other (specify)	14	2.75%	—	—
Don't know	14	2.75%	—	—

Table 8B - 6: Income

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
Less than $10,000	34	6.68%	40 (6)	7.86% (1.18 pt)
$10,000 to $14,999	28	5.50%	29 (1)	5.70% (0.20 pt)
$15,000 to $24,999	39	7.66%	40 (1)	7.86% (0.20 pt)
$25,000 to $34,999	53	10.41%	55 (2)	10.81% (0.40 pt)
$35,000 to $49,999	73	14.34%	76 (3)	14.93% (0.59 pt)
$50,000 to $74,999	78	15.32%	85 (7)	16.70% (1.38 pt)
$75,000 to $99,999	60	11.79%	65 (5)	12.77% (0.98 pt)
$100,000 to $149,999	67	13.16%	71 (4)	13.95% (0.79 pt)
$150,000 to $199,999	26	5.11%	26 (0)	5.11% (0.00 pt)
$200,000 or more	19	3.73%	22 (3)	4.32% (0.59 pt)
Don’t know	32	6.29%	—	—

Table 8B - 7: Race

Answers	Original #	Original %	Post-Imputation # (Change)	Post-Imputation % (Change)
White	335	65.82%	343 (8)	67.39% (1.57 pt)
Black or African American	57	11.20%	59 (2)	11.59% (0.39 pt)
Asian	28	5.50%	28 (0)	5.50% (0.00 pt)
American Indian or Alaska Native	6	1.18%	9 (3)	1.77% (0.59 pt)
Native Hawaiian or Other Pacific Islander	2	0.39%	2 (0)	0.39% (0.00 pt)
Two or more races	14	2.75%	14 (0)	2.75% (0.00 pt)
Other	47	9.23%	54 (7)	10.61% (1.38 pt)
Don’t know	20	3.93%	--	—

Appendix C: Methodological Changes from 2022

Response Collection Mode: In 2022, the survey was administered via web and phone. In 2023, the survey was administered via web only.

Oversamples: Both the 2022 and 2023 surveys included six hazard oversamples, but different hazards were selected for each year. In 2022, the six hazard oversamples were active shooter emergency, avalanche, chemical emergency, extreme heat, landslide and cyberattack. In 2023, the six hazard oversamples were coastal flooding, earthquake, hurricane, radiological emergency, riverine flooding and wildfire.

Number of Survey Instruments: In 2022, a separate survey (the National Household Survey on Disaster Preparedness for Historically Underserved Communities) was administered to collect data related to the lesbian, gay, bisexual, transgender, queer plus (LGBTQ+) community, people with faith-based beliefs and the American Indian, Alaska Native, Native Hawaiian or Other Pacific Islander communities. In 2023, data for these communities was collected as part of the National Household Survey on Disaster Preparedness, which included an oversample of respondents from the American Indian, Alaska Native, Native Hawaiian or Other Pacific Islander communities.

Survey Items: There were some small adjustments made to the survey instrument in 2023. For example, some questions had answer choices reordered alphabetically or had the tenses changed (e.g., the answer option “make a plan” from the 2022 survey became “made a plan” in the 2023 survey to match the verb tense of the answer choices to the verb tense of the questions). Additionally, because no responses were collected by phone in 2023, the standard answer option of “Prefer not to answer” (which was only available to be selected by the phone interviewer if a respondent refused to respond to the item) was removed for all survey items.

Weighting: In 2022, data was first weighted by geographic division and then weighted by other demographic variables via a statistical rake. In 2023, weighting was performed in one step via a statistical rake that included geographic division and other demographic variables.

Calculated Field — Rurality: In 2022, rurality status was categorized as urban, urban cluster or rural. In 2023, rurality status was categorized as urban or rural. This change was implemented to align with the U.S. Census Bureau’s change in urban-rural classification which stopped distinguishing between urban and urban clusters[11]. Additionally, in 2023, before using a respondent’s ZIP Code to assign a rurality designation, it was confirmed whether that ZIP Code was a valid ZIP Code for the respondent’s state; in cases of a mismatch, the respondent’s county was used to assign rurality

[11] "2020 Census Urban Areas FAQs," U.S. Department of Commerce, U.S. Census Bureau, Geography Division, Spatial Data Collection and Products Branch, accessed August 21, 2023, https://www2.census.gov/geo/pdfs/reference/ua/Census_UA_2020FAQs.pdf.

status instead of ZIP Code. In 2022, this ZIP Code validation check was not part of the rurality designation procedure.

Calculated Field — Factors that Influence Preparedness Actions: In 2023, the dataset included calculated fields that indicate whether a respondent possessed at least one, at least two, at least three or all four factors that influence preparedness actions. In 2022, the dataset included calculated fields for combinations of only three factors that influence preparedness actions (risk perception was excluded from these calculated variables). Additionally, in 2023, these calculated fields took the values of “Yes,” “No,” and “Unknown,” whereas in 2022 they only took the values of “Yes” and missing.

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