

# Survey Instrument: NWS Extreme Heat Survey

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## 1) Intro/Welcome

Thank you for taking the time to complete this survey. Your feedback is important to the National Weather Service and will be used to better understand: the public's experiences with extreme heat, the public's readiness for future heat waves, and opportunities for the National Weather Service to share information. The survey should take you about 15 minutes to complete.

## 2) Question module: Self-identifying information

First, we have some questions about your household. Please think about your primary residence where you live most of the time.

- 2.1 To make sure we understand which general area you live in, please provide the zip code where you live most of the time?

ENTER 5-DIGIT ZIP CODE: \_\_\_\_\_ [REQUIRE 5-DIGIT NUMBER]

- 2.2 [ONLY ASK IF RESPONDENT REFUSED TO PROVIDE ZIP CODE ABOVE]: Using the dropdown list, please select the state where you live most of the time.

[STATE DROPDOWN LIST]

- 2.3 Approximately how long have you lived there?

1 - Less than 1 year

- 2 - 1 to 2 years
- 3 - 3 to 5 years
- 4 - 6 to 10 years
- 5 - More than 10 years

2.4 What type of home is your primary residence?

- 1 - Apartment or condo
- 2 - Single family home
- 3 - Duplex or townhouse
- 4 - Mobile home / manufactured home
- 5 - I do not have stable housing
- 6 - Other (please specify)

2.5 How many people, including yourself, live in your household?

ENTER NUMBER: \_\_\_\_ [ALLOW RANGE OF 1-20]

2.6 Is there at least one person in your household who is...? (Please select all that apply)

- 1 - Age 4 or younger
- 2 - Age 65 or older
- 3 - Lower income (for example, needing or receiving government income, food, or healthcare assistance)
- 4 - A non-English speaker / limited English proficiency
- 5 - A person with a physical disability (for example, uses a wheelchair or mobility device)
- 6 - Pregnant
- 7 - A person with a medical condition (such as obesity, heart disease, or mental illness)
- 8 - Without stable housing
- 9 - Without a vehicle
- 10 - An outdoor worker
- 11 - An indoor worker without adequate cooling
- 12 - An athlete (including indoor/outdoor exercise)
- 13 - None of the above

2.7 Are you currently...? (Please select only one)

- 1 - Employed for wages
- 2 - Self-employed
- 3 - Out of work for 1 year or more
- 4 - Out of work for less than 1 year
- 5 - A homemaker

- 6 - A student
- 7 - Retired
- 8 - Unable to work and/or receiving disability

2.8 How would you describe a heat wave?

[PROVIDE A TEXT BOX]

2.9 Have you ever experienced a heat wave, in other words, a period of unusually hot days?

- 1 - Yes
- 2 - No
- 3 - Not sure

2.10 [ONLY ASK IF 2.9 = YES]: How long ago did you experience the most recent heat wave? (Please select only one)

- 1 - Less than 1 year
- 2 - 1 to 2 years
- 3 - 3 to 5 years
- 4 - 6 to 10 years
- 5 - More than 10 years

### 3) Question module: Personal risk perception

Next, we have some questions about how your household may or may not be at-risk from heat.

3.1 Do you believe [IF 2.5=1 USE: you are / IF 2.5=2-20 USE: anyone in your household is] at-risk for any of the following impacts from a heat wave? (Please select all that apply) [ANSWER LIST TO BE RANDOMIZED]

- 1 - Extreme discomfort
- 2 - Difficulty doing normal daily activities (such as sleeping, working, studying)
- 3 - Irritability
- 4 - Harmful health symptoms (such as breathing issues, muscle cramps, overheating, or dizziness/fainting)
- 5 - Death
- 6 - Difficulty commuting
- 7 - None of the above
- 8 - Not sure

3.2 How much health risk, if any, do you think the following groups would experience during a heat wave? [LIST OF SUB-ITEMS TO BE RANDOMIZED]

- A. Ages 4 or younger
- B. Ages 65 or older
- C. Racial or ethnic minorities
- D. Lower income (for example, needing or receiving government income, food, or healthcare assistance)
- E. Non-English speakers / limited English proficiency
- F. With a physical disability (for example, using a wheelchair or mobility device)
- G. Pregnant
- H. With a medical condition (such as obesity, heart disease, or mental illness)
- I. Without stable housing
- J. Without a vehicle
- K. Outdoor workers
- L. Indoor workers without adequate cooling
- M. Athletes (including indoor/outdoor exercise)
- N. Living alone

EACH OF THE ABOVE SUB-ITEMS WILL HAVE THE FOLLOWING ANSWER OPTIONS:

- 1 - No risk
- 2 - Low risk
- 3 - Medium risk
- 4 - High risk
- 5 - Not sure

#### 4) Question module: Communication methods

Now we have some questions about how [IF 2.5=1 USE: you get / IF 2.5=2-20 USE: your household gets] information about heat. First, we will ask what platforms you use to get the information. Then we will ask who is the source of the information.

4.1 Think about what platforms you use to get information about major weather events, such as a heat wave, blizzard, or hurricane. How often, if at all, do you use these platforms to get the information? [PLATFORMS TO BE RANDOMIZED]

- A. Television
- B. Websites, including news and weather sites
- C. Social media sites
- D. Apps on your phone or tablet
- E. Phone notifications (that is, alerts popping up on your phone)

- F. Print news
- G. Radio
- H. Word of mouth (for example relatives, friends, or co-workers)

EACH OF THE ABOVE SUB-ITEMS WILL HAVE THE FOLLOWING ANSWER OPTIONS:

- 1 - Often
- 2 - Sometimes
- 3 - Hardly ever
- 4 - Never

4.2 Think about who is the source of information you get about major weather events, such as a heat wave, blizzard, or hurricane. How often, if at all, do you use these sources to get the information? [SOURCES TO BE RANDOMIZED. EACH SOURCE WILL HAVE A MORE DETAILED EXPLANATION AFTER IT THAT ONLY APPEARS IF THE RESPONDENT HOVERS OVER THE SOURCE]

- A. Local news
  - *Local, state, or regional news media such as a local newspaper or television station*
- B. Local government
  - *Local, state, or regional government agencies such as an elected official, health department, or emergency management/law enforcement*
- C. National news
  - *National news media such as major national television networks or cable stations*
- D. National government
  - *Federal government agencies (such as the National Weather Service, Centers for Disease Control and Prevention, or the Federal Emergency Management Agency)*
- E. Other weather providers
  - *Other weather or news providers (such as national weather applications or websites)*
- F. Medical professionals
  - *Medical professionals such as a primary care doctor*
- G. Utility company
  - *Utility companies such as electric, gas, or water*
- H. Community leaders
  - *Community-leaders from businesses, religious organizations, or not-for-profit organizations*
- I. [ONLY ASK IF 2.7=1]: Employer
- J. Word of mouth

- *People I know, such as relatives, friends, neighbors, or co-workers*

EACH OF THE ABOVE SUB-ITEMS WILL HAVE THE FOLLOWING ANSWER OPTIONS:

- 1 - Often
- 2 - Sometimes
- 3 - Hardly ever
- 4 - Never

**5) Question module: Communication framing**

In this section, we are going to present you with two different heat messages. After each message, we are going to ask how you would feel about seeing it in your local weather report.

HERE WE WILL PRESENT THE 2 RANDOMLY ASSIGNED VERSIONS OF HEAT MESSAGES. EACH MESSAGE WILL HAVE 3 MESSAGE CHARACTERISTICS RANDOMLY ASSIGNED:

- 1. SEVERITY
- 2. HEALTH IMPACT
- 3. ORDER OF INFORMATION

Message w/ Order 1

HEALTH IMPACT. SEVERITY will occur tomorrow. Watch for symptoms of heat illness. Stay healthy by drinking plenty of water and taking breaks in cool areas.

Message w/ Order 2

SEVERITY will occur tomorrow. HEALTH IMPACT. Watch for symptoms of heat illness. Stay healthy by drinking plenty of water and taking breaks in cool areas.

Option	HEALTH IMPACT	SEVERITY
A	Many people are at risk for heat illness	Potentially dangerous temperatures
B	You may be at risk for heat illness	Potentially deadly temperatures

ASK FOR EACH: 5.1 On a scale of 1-10, where 1 is not at all serious and 10 is very serious, how serious or not would you rate this message?

AND ASK FOR EACH: 5.2 Seeing this message in my local weather report... (Please select all that apply) [ANSWER LIST TO BE RANDOMIZED]

- 1 - Makes me want to track the situation
- 2 - Indicates an immediate threat to me
- 3 - Scares me

- 4 - Makes me want to prepare
- 5 - Makes me want to get more information
- 6 - Does not make me want to take action
- 7 - None of the above

5.3 Thinking of the usual news reports and messages your household gets about heat waves, which of the following types of information, if any, would you want to have more of? Please select up to 3 of your top choices: [ANSWER LIST TO BE RANDOMIZED]

- 1 - Advanced notice
- 2 - Information on who is at risk
- 3 - Details on how hot it will be
- 4 - Details on exactly where it will be hot
- 5 - Information on what my household can do to prepare
- 6 - Specific precautions or preparations that those at greatest-risk should take
- 7 - Information on where to get help
- 8 - Information on what my workplace is doing to protect us
- 9 - Information on what my city is doing to protect us
- 10 - Information on what I can do to help others protect themselves
- 11 - Other (please specify)
- 12 - None of the above

## 6) Question module: Personal action

Next, we ask what your household does about heat.

6.1 How much time [IF 2.5=1 USE: do you / IF 2.5=2-20 USE: does your household] need to prepare for a heat wave?

- 1 - None
- 2 - Very little time (a few hours)
- 3 - Some time (up to 24 hours)
- 4 - More time (more than 24 hours)
- 5 - Not sure

6.2 If a heat wave occurred, could [IF 2.5=1 USE: you / IF 2.5=2-20 USE: your household]...?

- 1 - Easily protect [yourself/yourselfs]
- 2 - Somewhat easily protect [yourself/yourselfs]
- 3 - Not easily protect [yourself/yourselfs]
- 4 - Not protect [yourself/yourselfs] at all

5 - Not sure

6.3 What actions, if any, [IF 2.5=1 USE: do you take to protect yourself / IF 2.5=2-20 USE: does your household take to protect yourselves] in a heat wave? (Please select all that apply) [ANSWER LIST TO BE RANDOMIZED]

1 - Use air conditioning

2 - Use fans

3 - Open windows

4 - Close window shades or blinds

5 - Take cool baths or showers

6 - Wear lightweight clothing

7 - Avoid time outdoors

8 - Seek shade when outdoors

9 - Take rest breaks

10 - Limit or reschedule exercise / strenuous activity

11 - Stock up and/or drink plenty of water

12 - Eat light meals

13 - Visit air-conditioned places (for example a shopping center, library, or cooling center)

14 - Move to a cooler part of my home (for example a basement)

15 - Check on at-risk family, friends, and neighbors

16 - Other (specify)

17 - None of the above

6.4 How prepared or not [IF 2.5=1 USE: are you / IF 2.5=2-20 USE: is your household] for a heat wave?

1 - Very prepared

2 - Somewhat prepared

3 - Somewhat unprepared

4 - Very unprepared

5 - Not sure

6.5 If your usual plan to protect [IF 2.5=1 USE: yourself / IF 2.5=2-20 USE: yourselves] during a heat wave wasn't possible anymore (for example, if a power outage limited use of fans or air conditioning, or there was limited bus service on a holiday), could [IF 2.5=1 USE: you / IF 2.5=2-20 USE: your household]:

1 - Easily protect [yourself/yourselves]

2 - Somewhat easily protect [yourself/yourselves]

3 - Not easily protect [yourself/yourselves]

4 - Not protect [yourself/yourselves] at all



5 - Not sure

6.6 Which of the following, if any, [IF 2.5=1 USE: do you / IF 2.5=2-20 USE: does your household] not have enough of to protect [IF 2.5=1 USE: yourself / IF 2.5=2-20 USE: yourselves] during a heat wave? (Please select all that apply) [ANSWER LIST TO BE RANDOMIZED]

1 - Air conditioning

2 - Transportation

3 - Money to spend on protecting [myself/ourselves]

4 - Information on how to protect [myself/ourselves]

5 - Work flexibility (such as working from a different location or at different times)

6 - Sports flexibility (such as adjusting the intensity, timing, or location of training)

7 - Shade

8 - Drinkable water

9 - None of the above

10 - Other (specify)

6.7 If given enough advance notice of a heat wave, when would [IF 2.5=1 USE: you / IF 2.5=2-20 USE: your household] most likely begin to prepare?

1 - Ahead of the heat wave

2 - As the heat wave starts

3 - Only when it gets hot indoors

4 - Only if someone gets sick

5 - [I/My household] would not prepare

6 - [I am/My household is] is already prepared

6.8 How likely is it that the following results could happen to [IF 2.5=1 USE: you / IF 2.5=2-20 USE: someone in your household] in a heat wave? [LIST OF SUB-ITEMS TO BE RANDOMIZED]

A. May need to change typical daily activities

B. May need to move to a cooler part of the home or workplace

C. May need help moving to a cooler location (such as a different building)

D. May need to miss work

E. May need to seek a doctor's care

F. May need to call 911

G. May die

EACH OF THE ABOVE SUB-ITEMS WILL HAVE THE FOLLOWING ANSWER OPTIONS:

1 - Often

2 - Sometimes

3 - Hardly ever

4 - Never

6.9 Do you think that the nature of heat waves is changing (for example, in length, temperature, frequency, or time of year)?

1 - Yes

2 - No

3 - Not sure

## 7) Demographics

Now, I would like to ask a few final questions about your background.

7.1 What is your age?

ENTER YEARS: \_\_\_\_\_ [ALLOW RANGE OF 18-99]

7.2 Are you of Hispanic, Latino/a, or Spanish origin?

1 - Yes

2 - No

7.3 Which one or more of the following would you say is your race? (Please select all that apply)

1 - White

2 - Black or African American

3 - Asian

4 - Native Hawaiian or Pacific Islander

5 - American Indian or Alaska Native

7.4 What is the highest level of education you completed?

1 - Less than a High School Diploma/GED

2 - High School Diploma/GED

3 - Vocational or Technical Diploma after high school

4 - Some college but no degree

5 - Associate's Degree

6 - Bachelor's Degree

7 - Graduate or Professional School but no degree

8 - Master's Degree

9 - Doctorate

10 - Other

7.5 Which of the following categories best describes your total annual household income before taxes, from all sources?

- 1 - Under \$20,000
- 2 - \$20,000 to under \$35,000
- 3 - \$35,000 to under \$50,000
- 4 - \$50,000 to under \$75,000
- 5 - \$75,000 to under \$100,000
- 6 - \$100,000 or more

7.6 Are you...? (Please select all that apply)

- 1 - Female
- 2 - Male
- 3 - Transgender, non-binary, or another gender

7.7 Is English the main language you speak at home?

- 1 - Yes
- 2 - No

Those are all our questions. Thank you for completing our survey!