TROPICAL WEATHER AND SOCIETY SURVEY INSTRUMENT
Date: Jun 20XX; Respondents = 1,500; Median Time = 20 min

You are invited to participate in the Severe Weather and Society study. This study seeks to assess how U.S. residents receive, understand, and respond to weather forecasts and warnings. You were selected as a possible participant because you volunteered to participate in online surveys through Qualtrics or one of its partners. If you agree to participate, you will complete this online survey.

There are no risks or benefits.

If you participate, you will be compensated according to your agreement with your online survey provider. Your participation is voluntary and your responses will be de-identified before they are shared for research purposes or published.

Even if you choose to participate now, you may stop participating at any time and for any reason. Your data may be used in future research studies, unless you contact me to withdraw your data.

Data are collected via an online survey system that has its own privacy and security policies for keeping your information confidential. The University of Oklahoma cannot provide assurances as to how this online survey system is permitted to use the data you provide.

If you have questions about this research, please contact the Center for Risk and Crisis Management at the University of Oklahoma, at 405-325-1720 or at clsilva@ou.edu.

You can also contact the University of Oklahoma – Norman Campus Institutional Review Board at 405-325-8110 or irb@ou.edu with questions, concerns or complaints about your rights as a research participant, or if you don't want to talk to the researcher.

By answering the survey questions, I agree to participate in this research. Please print this page for your records. This research has been approved by the University of Oklahoma, Norman Campus IRB.

OMB Control Number: 0648-XXXX
Expiration Date: XX/XX/20XX
IRB Number: 9418
Approval date: 06/13/2018

Paperwork Reduction Act
A Federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with an information collection subject to the requirements of the Paperwork Reduction Act of 1995 unless the information collection has a currently valid OMB Control Number. The approved OMB Control Number for this information collection is 0648-XXXX. Without this approval, we could not conduct this survey. Public reporting for this information collection is estimated to be approximately 20 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. All responses to this information collection are voluntary. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden to the NWS Office of Science and Technology Integration, Attn: Nicole Kurkowski, Nicole.kurkowski@noaa.gov.

----------End Web pg----------

age: How old are you? [verbatim; require numeric; IF < 18 SKIP TO END OF SURVEY]

gend: Are you male or female?
0 - Female
1 - Male

hisp: Do you consider yourself to be Hispanic, Latino, or Spanish or to have Hispanic, Latino, or Spanish origins?
0 - No
1 - Yes

race: Which of the following best describes your race?
1 - White
2 - Black or African American
3 - American Indian or Alaska Native
4 - Asian
5 - Native Hawaiian or Pacific Islander
6 - Two or more races
7 - Some other race (please specify)
race_spec: [VERATIM]

----------End Web pg----------

state: Please select the state or district where your primary residence is located.

zip: What is the five digit zip code at your residence? [VERATIM; REQUIRE 5-DIGIT NUMERIC]

----------End Web pg----------

Approximately how long have you lived at your current address or any other address within the same zip code area?
long_years: **[**VERBATIM; REQUIRE NUMERIC] years and **long_months**: [VERBATIM, REQUIRE NUMERIC <12] months.

----------End Web pg----------

[SHOW IF **long_years** < 5]
last_state: Using the dropdown list, please select the state or district where your previous residence was located.

----------End Web pg----------

now: Please indicate which of the following statements applies to you.
0 - I am completing this survey from my current primary residence.
1 - I am completing this survey from a location that is not my current primary residence.

----------End Web pg----------

rural: Which of the following categories best describes the location of your current primary residence?
1 - Urban lot in a densely populated area
2 - Suburban lot in a neighborhood that is near a densely populated area
3 - Rural lot in a sparsely populated area

home: Which of the following categories best describes the nature of your current primary residence?
1 - Stand-alone (detached) permanent structure such as a house
2 - Condominium, town-house, or duplex that is attached to another structure
3 - Apartment or dormitory room that is part of a larger residential complex
4 - Mobile home (whether placed on a permanent foundation or not)
5 - Boat, boathouse, ship, dock, or other floating structure
6 - Other type (please specify)
home_spec: [VERBATIM]

rent: Which of the following categories best describes your living arrangements at your current primary residence?
1 - Live with family or friends and *do not pay* rent

2 - Live with family or friends and *pay* rent
3 - Pay to rent or lease your primary residence (includes college or other dormitory rooms)
4 - Own your primary residence (includes making mortgage payments or outright ownership with no mortgage payments)

----------End Web pg----------

adults: ***Including yourself,*** how many ADULTS AGE 18 AND OLDER live in your current primary residence? [VERBATIM; REQUIRE NON-ZERO NUMERIC RESPONSE] adults

children: How many CHILDREN AGE 17 AND YOUNGER live in your current primary residence? **[**VERBATIM; REQUIRE NUMERIC RESPONSE] children

----------End Web pg----------

We have some basic questions about the weather. How much do you agree or disagree with the following statements? [RANDOM ORDER]

follow: I follow the weather very closely.
1 - Strongly disagree
2 - Disagree
3 - Neither disagree nor agree
4 - Agree
5 - Strongly agree

plan_around: I plan my daily routine around the weather.
1 - Strongly disagree
2 - Disagree
3 - Neither disagree nor agree
4 - Agree
5 - Strongly agree

und_weather: I don't understand what causes extreme weather events like thunderstorms, tornadoes, and hurricanes.
1 - Strongly disagree
2 - Disagree
3 - Neither disagree nor agree
4 - Agree
5 - Strongly agree

----------End Web pg----------

How frequently do you get information about the weather from each of the following sources? [RANDOM ORDER IN TABLE]

wthr_info_paper: Newspapers
1 - Never
2 - Less than once per week
3 - About once per week
4 - Several times per week
5 - About once a day
6 - Several times a day

wthr_info_web: Non-government Internet websites (such as weather.com)
1 - Never
2 - Less than once per week

3 - About once per week
4 - Several times per week
5 - About once a day
6 - Several times a day

wthr_info_govweb: Government Internet websites (such as noaa.gov)
1 - Never
2 - Less than once per week
3 - About once per week
4 - Several times per week
5 - About once a day
6 - Several times a day

wthr_info_loctv: Local TV (television) news
1 - Never
2 - Less than once per week
3 - About once per week
4 - Several times per week
5 - About once a day
6 - Several times a day

wthr_info_cabtv: Cable TV (television) news (such as The Weather Channel)
1 - Never
2 - Less than once per week
3 - About once per week
4 - Several times per week
5 - About once a day
6 - Several times a day

wthr_info_radio: Radio
1 - Never
2 - Less than once per week
3 - About once per week
4 - Several times per week
5 - About once a day
6 - Several times a day

wthr_info_fam: Family, friends or colleagues
1 - Never
2 - Less than once per week
3 - About once per week
4 - Several times per week
5 - About once a day
6 - Several times a day

wthr_info_soc: Social Media, such as Facebook and Twitter
1 - Never
2 - Less than once per week
3 - About once per week
4 - Several times per week
5 - About once a day
6 - Several times a day

wthr_info_phone: Cell phone applications or automated text messages
1 - Never
2 - Less than once per week

3 - About once per week
4 - Several times per week
5 - About once a day
6 - Several times a day

----------End Web pg----------

Thinking about all four seasons (winter, summer, spring, and fall), how do you rate the risk of the following extreme weather events to you and the people in your area? [RANDOM ORDER IN TABLE; REQUIRE ALL]

risk_wind: Extreme high winds
1 - No risk
2 - Low risk
3 - Moderate risk
4 - High risk
5 - Extreme risk

risk_rain: Extreme rain storms
1 - No risk
2 - Low risk
3 - Moderate risk
4 - High risk
5 - Extreme risk

risk_heat: Extreme heat waves
1 - No risk
2 - Low risk
3 - Moderate risk
4 - High risk
5 - Extreme risk

risk_drought: Droughts
1 - No risk
2 - Low risk
3 - Moderate risk
4 - High risk
5 - Extreme risk

risk_cold: Extreme cold temperatures
1 - No risk
2 - Low risk
3 - Moderate risk
4 - High risk
5 - Extreme risk

risk_snow: Extreme snow (or ice) storms
1 - No risk
2 - Low risk
3 - Moderate risk
4 - High risk
5 - Extreme risk

risk_tor: Tornadoes
1 - No risk
2 - Low risk

3 - Moderate risk
4 - High risk
5 - Extreme risk

risk_flood: Floods
1 - No risk
2 - Low risk
3 - Moderate risk
4 - High risk
5 - Extreme risk

risk_hur: Hurricanes
1 - No risk
2 - Low risk
3 - Moderate risk
4 - High risk
5 - Extreme risk

risk_fire: Wildfires
1 - No risk
2 - Low risk
3 - Moderate risk
4 - High risk
5 - Extreme risk

----------End Web pg----------

risk_tie: It looks like you gave these extreme weather events the same rating. Please indicate which type of event poses the biggest risk to you and the people in your area. [CHECK BOX OF TOP RISKS; RANDOM ORDER; 1 = SELECTED]

----------End Web pg----------

The National Weather Service (NWS), an agency of the United States government, issues weather forecasts and different kinds of alerts to the public about hazardous weather, including severe weather watches, warnings, and advisories.

alert_und: In general, do you understand the difference between watches, warnings, and advisories?
1 - Definitely no
2 - Probably no
3 - Not sure
4 - Probably yes
5 - Definitely yes

----------End Web pg----------

The next few questions focus on hurricanes. For simplicity, we use the word ***hurricane*** to reference all tropical cyclone events, including tropical storms.

Hurricanes may be rare or even impossible in your area but because people move and travel around the country, or because they may have family or friends who live in areas affected, it is important to study how everyone understands the risk of hurricanes.

----------End Web pg----------

[SHOW ONLY IF **risk_hur** = 2, 3, 4, OR 5]

To begin, please think about you, family members you live with, and your home as you respond to the following questions about hurricane threats.

hr_risk_prob: How likely do you think it is that the area where you live will be affected by a hurricane in the next few months?
1 – Not at all likely
2
3
4
5 – Extremely likely

hr_risk_imp: If the area where you live is affected by a hurricane in the next few months, how likely do you think it is that you will experience negative impacts from the storm?
1 – Not at all likely
2
3
4
5 – Extremely likely

hr_risk_sev: If the area where you live is affected by a hurricane in the next few months, how severe do you think the negative impacts will be to you from the storm?
1 – Not at all severe
2
3
4
5 – Extremely severe

hr_risk_aff: If the area where you live is affected by a hurricane in the next few months, how worried are you that it will affect you?
1 – Not at all worried
2
3
4
5 – Extremely worried

----------End Web pg----------

The National Weather Service issues multiple public alerts during hurricanes, including storm surge watches and warnings, hurricane watches and warnings, and tropical storm watches and warnings.

huralerts: How would you rate your understanding of the differences between these alerts?
1 - Poor
2 - Fair
3 - Good
4 - Very good
5 - Excellent

----------End Web pg----------

To the best of your knowledge, is the following alert considered a *watch* or a *warning*? [RANDOM SPLIT; 50% get **hurwatch**; 50% get **hurwarn**]

hurwatch: This alert is issued when storm surge, hurricane conditions, or tropical storm conditions are *possible*.
1 - Hurricane WATCH
2 - Hurricane WARNING

3 - Don’t know

hurwarn: This alert is issued when storm surge, hurricane conditions, or tropical storm conditions are *expected*.
1 - Hurricane WATCH
2 - Hurricane WARNING
3 - Don’t know

----------End Web pg----------

ts_warn_time: If the National Weather Service issues a ***tropical storm*** WARNING for your location, about how much time do you have before tropical storm conditions begin?
1 - less than 1 hour
2 - 1 to 24 hours
3 - 1 to 2 days
4 - 2 to 4 days
5 - 4 to 8 days

hur_warn_time: If the National Weather Service issues a ***hurricane*** WARNING for your location, about how much time do you have before hurricane conditions begin?
1 - less than 1 hour
2 - 1 to 24 hours
3 - 1 to 2 days
4 - 2 to 4 days
5 - 4 to 8 days

srg_warn_time: If the National Weather Service issues a ***storm surge*** WARNING for your location, about how much time do you have before storm surge (inundation from rising water moving inland) begins?
1 - less than 1 hour
2 - 1 to 24 hours
3 - 1 to 2 days
4 - 2 to 4 days
5 - 4 to 8 days

----------End Web pg----------

ts_watch_time: If the National Weather Service issues a ***tropical storm*** WATCH for your location, about how much time do you have before tropical storm conditions may begin?
1 - less than 1 hour
2 - 1 to 24 hours
3 - 1 to 2 days
4 - 2 to 4 days
5 - 4 to 8 days

hur_watch_time: If the National Weather Service issues a ***hurricane*** WATCH for your location, about how much time do you have before hurricane conditions may begin?
1 - less than 1 hour
2 - 1 to 24 hours
3 - 1 to 2 days
4 - 2 to 4 days
5 - 4 to 8 days

srg_watch_time: If the National Weather Service issues a ***storm surge*** WATCH for your location, about how much time do you have before storm surge (a rise in seawater level caused by the storm) conditions may begin?
1 - less than 1 hour
2 - 1 to 24 hours
3 - 1 to 2 days

4 - 2 to 4 days
5 - 4 to 8 days

----------End Web pg----------

hur_map_und: Forecasters, websites, and phone applications often use maps to display information about hurricane risks. How would you rate your understanding of maps?
1 - Poor
2 - Fair
3 - Good
4 - Very good
5 - Excellent

----------End Web pg----------

In addition to tropical storm, hurricane, and storm surge watches and warnings, the National Weather Service often issues alerts for tornadoes and rainfall-induced flooding during tropical cyclone events.

tor_watchwarn_und: How would you rate your understanding of *tornado* watches and warnings?
1 - Poor
2 - Fair
3 - Good
4 - Very good
5 - Excellent

flood_watchwarn_und: How would you rate your understanding of rainfall-induced *flood* or *flash flood* watches and warnings?
1 - Poor
2 - Fair
3 - Good
4 - Very good
5 - Excellent

----------End Web pg----------

flood_srg_und: For some people, it is difficult to explain the difference between *flooding* and *storm surge*. How would you rate your understanding of the difference between the two hazards?
1 - Poor
2 - Fair
3 - Good
4 - Very good
5 - Excellent

flood_srg_desc: Please use a few words to explain the primary difference between flooding and storm surge. [VERBATIM]

----------End Web pg----------

To the best of your knowledge, what is the deepest amount of flood or storm surge water that is safe to cross when you are on *foot*? [ALIGN BOXES HORIZANTALLY]
srg_foot_ft: [VERBATIN, REQUIRE NUMERIC] (feet) and
srg_foot_in: [VERBATIN, REQUIRE NUMERIC] (inches)

To the best of your knowledge, what is the deepest amount of flood or storm surge water that is safe to cross in a *car*? [ALIGN BOXES HORIZANTALLY]
srg_car_ft: [VERBATIN, REQUIRE NUMERIC] (feet) and

srg_car_in: [VERBATIN, REQUIRE NUMERIC] (inches)

----------End Web pg ----------

Now we have some questions about rip currents.

rip_hear: Have you ever heard of a *rip current*?
0 - No
1 - Yes
2 - Not sure

----------End Web pg ----------

[ask only if **rip_hear** = 1]

rip_und: How would you rate your understanding of *rip currents*?
1 - Poor
2 - Fair
3 - Good
4 - Very good
5 - Excellent

rip_risk: How do you rate the risk of *rip currents* to people who swim in oceans?
1 - No risk
2 - Low risk
3 - Moderate risk
4 - High risk
5 - Extreme risk

----------End Web pg ----------

[ask only if **rip_hear** = 1]

To the best of your knowledge, are the following statements about *rip currents* true or false? [RANDOM ORDER IN TABLE]

rip_imp: It is almost impossible to escape a rip current; if one catches you, you are unlikely to survive if someone does not come and rescue you.
1 – Definitely false
2 – Probably false
3 – Not sure
4 – Probably true
5 – Definitely true

rip_see: If you look carefully, you can usually see rip currents from the shore.
1 – Definitely false
2 – Probably false
3 – Not sure
4 – Probably true
5 – Definitely true

rip_und: In addition to pulling you away from shore, rip currents can pull you under the water.
1 – Definitely false
2 – Probably false
3 – Not sure
4 – Probably true

5 – Definitely true

----------End Web pg ----------

hur_hist: Have you ever been in an area that was at risk of being hit by a hurricane (while you were there)?
0 - No
1 - Yes

----------End Web pg ----------

The next set of questions is about the variety of forecast information that you might receive when a hurricane threatens your location. If you have not been in this situation, please think about the information you might receive if you are in this situation in the future.

Do you agree with the following statements? [RANDOM ORDER]

rec_most: I receive pretty much all of the information that is available for my location.
1 - Strongly disagree
2 - Disagree
3 - Neither disagree nor agree
4 - Agree
5 - Strongly agree

rec_miss: Sometimes I miss information that is available for my location.
1 - Strongly disagree
2 - Disagree
3 - Neither disagree nor agree
4 - Agree
5 - Strongly agree

rec_time: I receive new information about my location as soon as it is available.
1 - Strongly disagree
2 - Disagree
3 - Neither disagree nor agree
4 - Agree
5 - Strongly agree

rec_screen: Sometimes there is too much information, I get some but not all of it.
1 - Strongly disagree
2 - Disagree
3 - Neither disagree nor agree
4 - Agree
5 - Strongly agree

----------End Web pg ----------

rec_dif_sit: Can you think of a situation that might cause you to *miss* important forecast information if a hurricane were threatening your location? [VERATIM]

----------End Web pg ----------

[SHOW IF **hur_hist** = 1]

Think about the *most recent* hurricane that you were at risk of experiencing.

storm_name: Can you tell us the name of the hurricane? [VERBATIM]

prot_act: Did you take some kind of protective action in response the hurricane?
0 – No
1 – Yes

----------End Web pg ----------

[SHOW IF **prot_act** = 1]

prot_act_kind: What kind of protective action did you take in response to the *most recent* hurricane that you were at risk of experiencing? [VERBATIM]

last_act_satis: Looking back, are you satisfied with the actions you took?
1 – Definitely no
2 – Probably no
3 – Not sure
4 – Probably yes
5 – Definitely yes

last_act_again: How likely is it that you would take the same action again if you found yourself in the same situation in the future?
1 - Very unlikely
2 - Somewhat unlikely
3 - About as likely as not
4 - Somewhat likely
5 - Very likely

----------End Web pg ----------

People take many different actions in response to hurricanes. What do you do when you get information that a hurricane may hit your location? If you have not been in this situation, please think about the actions you might take if you are in this situation in the future.

Do you agree with the following statements? [RANDOM ORDER]

resp_usually: I *usually* take protective action.
1 - Strongly disagree
2 - Disagree
3 - Neither disagree nor agree
4 - Agree
5 - Strongly agree

resp_ignore: Sometimes I ignore information and take my chances.
1 - Strongly disagree
2 - Disagree
3 - Neither disagree nor agree
4 - Agree
5 - Strongly agree

resp_always: I almost always take the protective actions that officials suggest, even if the actions are difficult.
1 - Strongly disagree
2 - Disagree
3 - Neither disagree nor agree
4 - Agree
5 - Strongly agree

----------End Web pg ----------

resp_dif_sit: Can you think of a situation that might cause you to *not take protective action* if a hurricane were threatening your location? [VERATIM]

----------End Web pg ----------

[SHOW ONLY IF **risk_hur** = 2, 3, 4, OR 5]

As you know, COVID-19 has had (and continues to have) a large impact on society. For some people, it may cause them to pay less attention to hurricane risks or make it more difficult to take protective action in response to them.

covid_risk: How do you rate the risk of COVID-19 in relation to hurricane risks to you and the people in your area?
1 – The risk of COVID-19 is *significantly lower* than the risk of hurricanes
2 – The risk of COVID-19 is *lower* than the risk of hurricanes
3 – The risks are about the same
4 – The risk of COVID-19 is *higher* than the risk of hurricanes
5 – The risk of COVID-19 is *significantly higher* than the risk of hurricanes

covid_attention: Do you pay less attention to hurricane risks than you did before COVID-19?
1 - Definitely no
2 - Probably no
3 - Not sure
4 - Probably yes
5 - Definitely yes

covid_respond: Do you think COVID-19 will make it more difficult for you and other people in your area to take protective action in response to hurricanes in the next few weeks?
1 - Definitely no
2 - Probably no
3 - Not sure
4 - Probably yes
5 - Definitely yes

----------End Web pg ----------

[SHOW ONLY IF **covid_respond** = 4 OR 5]

covid_hurplans: Can you tell us how COVID-19 might change your hurricane preparation or response plans? [VERBATIM]

----------End Web pg ----------

Information about hurricanes is available from multiple sources. How much do you, *personally*, rely on the following sources of information? If you have not been at a location that is at risk from an approaching hurricane, please think about the information you might receive if you are in this situation in the future. [RANDOM ORDER]

wx_info1: Broadcast radio
1 - Not much
2 - Little
3 - Somewhat
4 - Much
5 - A great deal

wx_info2: Weather radio (National Weather Service radio)
1 - Not much
2 - Little
3 - Somewhat
4 - Much
5 - A great deal

wx_info3: Television
1 - Not much
2 - Little
3 - Somewhat
4 - Much
5 - A great deal

wx_info4: Internet websites focused on weather forecasts, such as those provided by the National Weather Service 1 - Not much
2 - Little
3 - Somewhat
4 - Much
5 - A great deal

wx_info5: Social media, such as Twitter or Facebook
1 - Not much
2 - Little
3 - Somewhat
4 - Much
5 - A great deal

wx_info6: Word-of-mouth (including telephone calls or texts) from family, friends, neighbors, employers, co-workers, etc.
1 - Not much
2 - Little
3 - Somewhat
4 - Much
5 - A great deal

wx_info7: Automated text or phone notifications
1 - Not much
2 - Little
3 - Somewhat
4 - Much
5 - A great deal

----------End Web pg----------

Please indicate your level of trust in information about hurricanes from each of the following organizations and groups. [RANDOM ORDER IN TABLE]

nws_trust: The National Weather Service
1 - No trust
2 - Low trust
3 - Moderate trust
4 - High trust
5 - Complete trust

lotv_trust: Regional or local TV stations

1 - No trust
2 - Low trust
3 - Moderate trust
4 - High trust
5 - Complete trust

natv_trust: National TV stations (like the Weather Channel)
1 - No trust
2 - Low trust
3 - Moderate trust
4 - High trust
5 - Complete trust

em_trust: State or local emergency managers
1 - No trust
2 - Low trust
3 - Moderate trust
4 - High trust
5 - Complete trust

fam_trust: Family, friends, neighbors, employers, co-workers, etc.
1 - No trust
2 - Low trust
3 - Moderate trust
4 - High trust
5 - Complete trust

----------End Web pg----------

info_nhc: How often do you get information *directly* from the National Hurricane Center when hurricanes threaten your location? If you have not been in this situation, please tell us how often you might get information from the National Hurricane Center if you are in this situation in the future.
0 – Never
1 – Rarely
2 – Sometimes
3 – Often
4 – Always

----------End Web pg----------

[SHOW IF **info_nhc** = 1, 2, 3 OR 4]
How do you get information from the from the National Hurricane Center? Please check all that apply.
nhc_twit: Twitter
nhc_face: Facebook
nhc_web: Internet website
nhc_tv: Television

----------End Web pg----------

[SHOW IF **info_nhc** = 0]
info_nhc_why: Can you tell us why you do not get information directly from the National Hurricane Center?
1 – I don't know where to find it
2 – It is usually too complicated
3 – I don't trust the National Hurricane Center
4 – Something else (please specify)
info_nhc_why_spec: [VERBATIM]

----------End Web pg----------

Hurricane forecasts often include multiple pieces of information. We want to know how important each of the following pieces of information is to you. Please drag the boxes below to rank each piece of information from most important (top) to least important (bottom). [RANDOM ORDER; ARRANGE TEXT]
forcast_loc: Location: what area is the storm going to affect?
forcast_time: Timing: when is the storm going to happen?
forcast_prob: Chance: how likely is the storm to occur?
forcast_sev: Severity: how intense is the storm going to be (for example: wind speed, amount storm surge, amount of rain)?
forcast_impact: Impacts: how might the storm impact you and surrounding areas? (for example: power outages, property damage)
forcast_safe: Protective actions: how can you stay safe during the storm? (for example: stay inside, seek shelter, evacuate)

----------End Web pg----------

Some people look for different kinds of information at different points in time. In the next few questions, we are going to give you a timeline and ask you to indicate the type of information that is *most* important at each point in time.

five_days: 5 days before the storm
1 - Location: what area is the storm going to affect?
2 - Timing: when is the storm going to happen?
3 - Chance: how likely is the storm to occur?
4 - Severity: how intense is the storm going to be?
5 - Impacts: how might the storm impact you and surrounding areas?
6 - Protective actions: how can you stay safe during the storm?

three_days: 3 days before the storm
1 - Location: what area is the storm going to affect?
2 - Timing: when is the storm going to happen?
3 - Chance: how likely is the storm to occur?
4 - Severity: how intense is the storm going to be?
5 - Impacts: how might the storm impact you and surrounding areas?
6 - Protective actions: how can you stay safe during the storm?

two_days: 2 days before the storm
1 - Location: what area is the storm going to affect?
2 - Timing: when is the storm going to happen?
3 - Chance: how likely is the storm to occur?
4 - Severity: how intense is the storm going to be?
5 - Impacts: how might the storm impact you and surrounding areas?
6 - Protective actions: how can you stay safe during the storm?

one_day: 1 days before the storm
1 - Location: what area is the storm going to affect?
2 - Timing: when is the storm going to happen?
3 - Chance: how likely is the storm to occur?
4 - Severity: how intense is the storm going to be?
5 - Impacts: how might the storm impact you and surrounding areas?
6 - Protective actions: how can you stay safe during the storm?

----------End Web pg----------

Forecasters often provide information in different ways. We want to know what you think of different formats. For each of the questions below, select the forecast format that *best* matches your preference: [RANDOM ORDER]

time_format: Which of these hurricane timing formats do you prefer? [RANDOM ORDER]
1 - There is still uncertainty, but the forecast suggests that tropical-storm-force winds will most likely begin at 3pm.
2 - There is still uncertainty, but the forecast suggests that tropical-storm-force winds will begin between 1 and 5pm.

amount_format: Which of these storm surge formats do you prefer? [RANDOM ORDER]
1 - There is still uncertainty, but the forecast suggests that the storm will most likely produce [**amount_format_rand1:** 4 | 12] inches of storm surge.
2 - There is still uncertainty, but the forecast suggests that the storm will produce between [**amount_format_rand2:** IF **amount_format_rand1** = 4 → 2 and 6 | IF **amount_format_rand1** = 12 → 10 and 14] inches of storm surge.

----------End Web pg----------

As you may know, hurricane forecast information often includes probabilistic information, such as the probability that a location will experience hurricane force winds. We want to know how you might interpret and use probabilistic information when making decisions.

The next section of the survey includes a variety of questions that ask you to calculate and think about probabilities in a variety of ways. Some questions may seem like a test, but they are not. We are using them to get insight into how you think about probabilities so that we can help the National Hurricane Center and others improve the information they provide during future events.

Thank you for taking the time to carefully answer these questions.

----------End Web pg----------

To begin, we have some questions about probabilities and risks. Please do not use a calculator but feel free to make notes or use paper if needed.

cointoss: Imagine that we flip a fair coin 1,000 times. What is your best guess about how many times the coin would come up heads in 1,000 flips? [VERBATIM; REQUIRE NUMERIC] [answer = 500]

bigbucks: In the BIG BUCKS LOTTERY, the chance of winning a $10 prize is 1%. What is your best guess about how many people would win a $10 prize if 1,000 people each buy a single ticket to BIG BUCKS? [VERBATIM; REQUIRE NUMERIC] [answer = 10]

acme_pub: In ACME PUBLISHING SWEEPSTAKES, the chance of winning a car is 1 in 1,000. What percent of tickets to ACME PUBLISHING SWEEPSTAKES win a car? [VERBATIM; REQUIRE NUMERIC] [answer = 0.1]

----------End Web pg----------

[show only if two or more of **cointoss**, **bigbucks**, or **acme_pub** are correct]

choir: Out of 1,000 people in a small town 500 are members of a choir. Out of these 500 members in a choir 100 are men. Out of the 500 inhabitants that are not in a choir 300 are men. What is the probability that a randomly drawn man is a member of the choir? Please indicate the probability as a percent. [VERBATIM; REQUIRE NUMERIC] [answer = 25]

----------End Web pg----------

[show only if **choir** is incorrect]

fiveside: Imagine we are throwing a five-sided die 50 times. On average, out of these 50 throws how many times would this five-sided die show an odd number (1, 3 or 5)? [VERBATIM; REQUIRE NUMERIC] [answer = 30]

----------End Web pg----------

[show only if **choir** is correct]

sixside: Imagine we are throwing a loaded die (6 sides). The probability that the die shows a 6 is twice as high as the probability of each of the other numbers. On average, out of 70 throws how many times would the die show the number 6? [VERBATIM; REQUIRE NUMERIC] [answer = 20]

----------End Web pg----------

[show only if **sixside** is incorrect]

mushroom: In a forest, 20% of the mushrooms are red, 50% are brown, and 30% are white. A red mushroom is poisonous with a probability of 20%. A mushroom that is not red is poisonous with a probability of 5%. What is the probability that a poisonous mushroom in the forest is red? Please indicate the probability as a percent. [VERBATIM; REQUIRE NUMERIC] [answer = 50]

----------End Web pg----------

Probabilities can be difficult to calculate and interpret when you are trying to sort through a lot of information at once.

your_ability: How would you rate *your* ability to calculate and interpret probabilities when making decisions?
1 - Poor
2 - Fair
3 - Good
4 - Very good
5 - Excellent

public_ability: How would you rate the ability of *average people in your area* to calculate and interpret probabilities when making decisions?
1 - Poor
2 - Fair
3 - Good
4 - Very good
5 – Excellent

----------End Web pg----------

Now we want to know how you interpret more specific probabilities in weather forecasts. If you don't know an answer to one of the following questions, please provide your best guess.

If a forecast indicates a 2% percent chance of hurricane force winds on Monday, a 3% chance on Tuesday, a 4% chance on Wednesday, a 5% chance on Thursday, and a 10% chance on Friday…

incremental_prob: What is the probability (percent chance) of hurricane force winds on Friday? [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]%

cumulative_prob: What is the overall or "cumulative" probability (percent chance) of hurricane force winds during this 5-day forecast period? [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]%

----------End Web pg----------

If a forecast indicates that 4-6 inches of rain is the 90th percentile of a probability distribution for expected rainfall at a location…

percentile_less: What is the probability (percent chance) that this location will get *less than or equal to* 4-6 inches of rain? [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]%

percentile_more: What is the probability (percent chance) that this location will get *more than* 4-6 inches of rain? [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]%

----------End Web pg----------

If a forecast indicates a 1 in 10 chance that storm surge will exceed 9-11 ft at a location…

exceedance_less: What is the probability (percent chance) that this location will get *less than or equal to* 9-11 ft of storm surge? [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]%

exceedance_more: What is the probability (percent chance) that this location will get *more than* 9-11 ft of storm surge? [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]%

----------End Web pg----------

cond_prob: If a forecast indicates that there is a 50% percent chance that a location will see a severe thunderstorm and that there is a 10% chance that the thunderstorm will produce a tornado if it forms, what is the probability that location will see a tornado? [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100%

----------End Web pg----------

Now we are going to show you some example forecast messages from past hurricanes and ask you how reliable the messages seem to you. We know this can be difficult without more information. Just give us your first impression.

----------End Web pg----------

[RANDOMIZE **rand_wind**; EACH RESPONDENT SEES ONLY ONE]
rand_wind_1: There is a chance of hurricane force winds in Key West, FL beginning tomorrow afternoon at 4:00. [LINK TO IMAGE]
rand_wind_2: There is a 50% chance of hurricane force winds in Key West, FL beginning tomorrow afternoon at 4:00. [LINK TO IMAGE]
rand_wind_3: There is a moderate (50%) chance of hurricane force winds in Key West, FL beginning tomorrow afternoon at 4:00. [LINK TO IMAGE]
rand_wind_4: There is a moderate (40% - 60%) chance of hurricane force winds in Key West, FL beginning tomorrow afternoon at 4:00. [LINK TO IMAGE]

wind_reliable: Using this information alone, how reliable does this forecast message seem to you?
1 – Not at all reliable
2 – Slightly reliable
3 – Moderately reliable
4 – Very reliable
5 – Extremely reliable

----------End Web pg----------

[RANDOMIZE **rand_surge**; EACH RESPONDENT SEES ONLY ONE]
rand_surge_1: Watch out! 9-11 ft of storm surge in Charleston, SC is possible with this hurricane. Surge conditions happen very quickly and can be life-threatening. [LINK TO IMAGE]

rand_surge_2: Watch out! There is a 10% chance that this hurricane will cause 9-11 ft of storm surge Charleston, SC. Surge conditions happen very quickly and can be life-threatening. [LINK TO IMAGE]
rand_surge_3: Watch out! 9-11 ft of storm surge in Charleston, SC is possible (10% chance) with this hurricane. Surge conditions happen very quickly and can be life-threatening. [LINK TO IMAGE]
rand_surge_4: Watch out! 9-11 ft of storm surge in Charleston, SC is possible (5% - 15% chance) with this hurricane. Surge conditions happen very quickly and can be life-threatening. [LINK TO IMAGE]

surge_reliable: Using this information alone, how reliable does this forecast message seem to you?
1 – Not at all reliable
2 – Slightly reliable
3 – Moderately reliable
4 – Very reliable
5 – Extremely reliable

----------End Web pg----------

[RANDOMIZE **rand_flood**; EACH RESPONDENT SEES ONLY ONE]
rand_flood_1: We expect significant flooding in Houston tomorrow evening as the hurricane slows and continues into Texas. [LINK TO IMAGE]
rand_flood_2: There is an 80% chance of significant flooding in Houston tomorrow evening as the hurricane slows and continues into Texas. [LINK TO IMAGE]
rand_flood_3: We expect (80% chance) to see significant flooding in Houston, TX tomorrow evening as the hurricane slows and continues into Texas. [LINK TO IMAGE]
rand_flood_4: We expect (70% - 90% chance) to see significant flooding in Houston, TX tomorrow evening as the hurricane slows and continues into Texas. [LINK TO IMAGE]

flood_reliable: Using this information alone, how reliable does this forecast message seem to you?
1 – Not at all reliable
2 – Slightly reliable
3 – Moderately reliable
4 – Very reliable
5 – Extremely reliable

----------End Web pg----------

Some forecasters use words and phrases in place of numbers when describing the probability that an event will happen. For example, they might use the phrase “slight chance” in place of “15% chance” when describing the probability of rain at a location.

When you see the following phrases, what percent chance comes to mind? Please indicate the chance as a percent that ranges from 0 to 100, where 0 means no chance and 100 means that it is certain. [RANDOM ORDER IN TABLE]
wep_remote: There is a *remote* chance of hurricane force winds. [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]
wep_low: There is a *low* chance of hurricane force winds. [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]
wep_chance: There is a *chance* of hurricane force winds. [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]
wep_slight: There is a *slight* chance of hurricane force winds. [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]
wep_mod: There is a *moderate* chance of hurricane force winds. [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]
wep_sig: There is a *significant* chance of hurricane force winds. [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]
wep_high: There is a *high* chance of hurricane force winds. [VERBATIM; REQUIRE NUMERIC BETWEEN 0 AND 100]

----------End Web pg----------

wep_rec: When you get information from forecasts, do you want:
1 – Numbers
2 – Words
3 – Both

Some forecasters also use graphics such as maps or charts in place of words and numbers. For example, they might show a map with a circle, line, or cone instead of saying specific city or state names when talking about where a hurricane is going. They might also use colors on a graphic in place of saying numbers to indicate how likely a hurricane is in a given location.

gr_rec: When you get information from forecasts, do you want:
1 – Graphics
2 – Words or numbers
3 – Both

----------End Web pg----------

Next, we have a few questions about some of the National Weather Service forecast graphics that you might see and use when hurricanes threaten your location. Please click through the next few pages and answer the questions at the bottom of each page. [RANDOM ORDER OF NEXT THREE PAGES]

----------End Web pg----------

[EXAMPLE STORM SURGE PROBABILITY GRAPHIC; LINK TO IMAGE]

This is a snap shot from a Potential Storm Surge Flooding map that is issued by the NOAA/NWS National Hurricane Center.

ss_see: Have you seen a graphic like this before?
0 – No
1 – Yes
2 – Not sure

ss_int: Are you able to interpret all of the information in this graphic?
1 – Definitely no
2 – Probably no
3 – Not sure
4 – Probably yes
5 – Definitely yes

ss_dec: How likely are you to use this graphic *to understand the risk* if a hurricane were to threaten your location?
1 – Very unlikely
2 – Unlikely
3 – Not sure
4 – Likely
5 – Very likely

ss_comm: How likely are you to use this graphic *to explain the risk* to friends, family, and neighbors if a hurricane were to threaten your location?
1 – Very unlikely
2 – Unlikely
3 – Not sure
4 – Likely

5 – Very likely

----------End Web pg----------

[EXAMPLE WIND SPEED PROBABILITY GRAPHIC; LINK TO IMAGE]

This is an example Wind Speed Probability graphic that is issued by the NOAA/NWS National Hurricane Center.

ws_see: Have you seen a graphic like this before?
0 – No
1 – Yes
2 – Not sure

ws_int: Are you able to interpret all of the information in this graphic?
1 – Definitely no
2 – Probably no
3 – Not sure
4 – Probably yes
5 – Definitely yes

ws_dec: How likely are you to use this graphic *to understand the risk* if a hurricane were to threaten your location?
1 – Very unlikely
2 – Unlikely
3 – Not sure
4 – Likely
5 – Very likely

ws_comm: How likely are you to use this graphic *to explain the risk* to friends, family, and neighbors if a hurricane were to threaten your location?
1 – Very unlikely
2 – Unlikely
3 – Not sure
4 – Likely
5 – Very likely

----------End Web pg----------

[EXAMPLE PQPF GRAPHIC; LINK TO IMAGE]

This is an example of Probabilistic Quantitative Precipitation Forecast (PQPF) graphic that is issued by the NOAA/NWS Weather Prediction Center.

qp_see: Have you seen a graphic like this before?
0 – No
1 – Yes
2 – Not sure

qp_int: Are you able to interpret all of the information in this graphic?
1 – Definitely no
2 – Probably no
3 – Not sure
4 – Probably yes
5 – Definitely yes

qp_dec: How likely are you to use this graphic *to understand the risk* if a hurricane were to threaten your location?
1 – Very unlikely

2 – Unlikely
3 – Not sure
4 – Likely
5 – Very likely

qp_comm: How likely are you to use this graphic *to explain the risk* to friends, family, and neighbors if a hurricane were to threaten your location?
1 – Very unlikely
2 – Unlikely
3 – Not sure
4 – Likely
5 – Very likely

----------End Web pg----------

Now we are going to show you the same three forecast graphics in messages from emergency managers in Location A. Please interpret them as if you were in Location A at the time of the message. Again, thank you for taking the time to carefully answer each question; your responses will help us make suggestions about how we might improve weather risk communication. [SAME ORDER AS ABOVE]

----------End Web pg----------

[RANDOMIZE STORM SURGE PROBABILITY MESSAGE; **rand_ss**: 1 = LINK; 2 = LINK; 3 = LINK]

ss_test: Which of the following statements best describes the storm surge forecast for **Location A**?
1 - There is a 10% chance that Location A will get more than 9 ft of storm surge above ground level.
2 - There is a 10% chance that Location A will get less than 9 ft of storm surge above ground level.
3 - There is a 10% chance that Location A will get approximately 9 ft of storm surge above ground level.
4 - Not sure

ss_conf: How confident are you in your response to the previous question?
1 - Not at all confident
2 - Not very confident
3 - Somewhat confident
4 - Very confident
5 - Extremely confident

ss_risk: How much risk does this information imply for average people in **Location A**?
1 – No risk
2 – Low risk
3 – Moderate risk
4 – High risk
5 – Extreme risk

ss_resp: If you were advising people in **Location A**, would you tell them to:
1 – Continue with daily activities
2 – Keep an eye on the forecast
3 – Take protective action

----------End Web pg----------

[RANDOMIZE WIND SPEED PROBABILITY MESSAGE; **rand_ws**: 1 = LINK; 2 = LINK; 3 = LINK]

ws_test: Which of the following statements best describes the probability of hurricane-force winds in **Location A**?
1 - There is an 80-90% chance of hurricane-force winds in Location A during the next 5 days.
2 - There is an 80-90% chance of hurricane-force winds in Location A in each of the next 5 days.

3 - There is an 80-90% chance of hurricane-force winds occurring somewhere along the southern Gulf coast of Florida during the next 5 days.
4 - Not sure

ws_conf: How confident are you in your response to the previous question?
1 - Not at all confident
2 - Not very confident
3 - Somewhat confident
4 - Very confident
5 - Extremely confident

ws_risk: How much risk does this information imply for average people in **Location A**?
1 – No risk
2 – Low risk
3 – Moderate risk
4 – High risk
5 – Extreme risk

ws_resp: If you were advising people in **Location A**, would you tell them to:
1 – Continue with daily activities
2 – Keep an eye on the forecast
3 – Take protective action

----------End Web pg----------

[RANDOMIZE PQPF MESSAGE; **rand_qp**: 1 = LINK; 2 = LINK; 3 = LINK]

qp_test: Which of the following statements best describes the rainfall forecast for **Location A**?
1 - There is a 90% chance that Location A will get more than or equal to 4 inches of rain.
2 - There is a 90% chance that Location A will get less than or equal to 4 inches of rain.
3 - There is a 90% chance of that Location A will get approximately get 4 inches of rain.
4 - Not sure

qp_conf: How confident are you in your response to the previous question?
1 - Not at all confident
2 - Not very confident
3 - Somewhat confident
4 - Very confident
5 - Extremely confident

qp_risk: How much risk does this information imply for average people in **Location A**?
1 – No risk
2 – Low risk
3 – Moderate risk
4 – High risk
5 – Extreme risk

qp_resp: If you were advising people in **Location A**, would you tell them to:
1 – Continue with daily activities
2 – Keep an eye on the forecast
3 – Take protective action

----------End Web pg ----------

Many forecasters use a combination of expert judgement (human intelligence) and computer models (artificial intelligence) to predict extreme weather events. In most cases, the humans and computers agree. But in some cases,

they disagree. In the next two pages we are going to show you an example forecast and ask you to evaluate the forecast process. Thank you for reading the examples carefully. [RANDOM ORDER NEXT TWO PAGES]

----------End Web pg ----------

[RANDOMIZE **rand_ai_1**]

Imagine that a storm is heading for your location and forecasters are trying to predict the probability that the storm will produce a tornado.

- [**rand_ai_1** = 1] The experts and computer models agree that a tornado is unlikely, so the forecasters decide not to issue a tornado warning.
- [**rand_ai_1** = 2] The experts and computer models disagree. The computer models predict that a tornado is possible, but the experts think it is unlikely, so the forecasters decide not to issue a tornado warning.
- [**rand_ai_1** = 3] The experts and computer models disagree. The experts predict that a tornado is possible, but the computer models think it is unlikely, so the forecasters decide not to issue a tornado warning.

Unfortunately, the forecast is incorrect, and a tornado occurs.

ai_1_acc: Do you think this forecast decision process was acceptable?
1 - Definitely no
2 - Probably no
3 - Not sure
4 - Probably yes
5 - Definitely yes

----------End Web pg ----------

[RANDOMIZE **rand_ai_2**]

Imagine that a storm is heading for your location and forecasters are trying to predict the probability that the storm will produce a tornado.

- [**rand_ai_2** = 1] The experts and computer models agree that a tornado is likely, so the forecasters decide to issue a tornado warning.
- [**rand_ai_2** = 2] The experts and computer models disagree. The computer models predict that a tornado is unlikely, but the experts think it is likely, so the forecasters decide to issue a tornado warning.
- [**rand_ai_2** = 3] The experts and computer models disagree. The experts predict that a tornado is unlikely, but the computer models think it is likely, so the forecasters decide to issue a tornado warning.

Unfortunately, the forecast is incorrect, and a tornado does not happen.

ai_2_acc: Do you think this forecast decision process was acceptable?
1 - Definitely no
2 - Probably no
3 - Not sure
4 - Probably yes
5 - Definitely yes

----------End Web pg ----------

The survey is nearly complete. We have just a few more questions about different kinds of risk.

How do you rate the following risks to people and society? [RANDOM ORDER; KEEP ORDERING THE SAME IN FOLLOWING TABLES (UP TO **income**)]

heart_risk: Heart attacks
1 - No risk
2 -
3 -
4 -
5 - Extreme risk

ski_risk: Skiing
1 - No risk
2 -
3 -
4 -
5 - Extreme risk

motor_risk: Motor vehicles
1 - No risk
2 -
3 -
4 -
5 - Extreme risk

food_risk: Food preservatives
1 - No risk
2 -
3 -
4 -
5 - Extreme risk

hur_risk: Hurricanes
1 - No risk
2 -
3 -
4 -
5 - Extreme risk

----------End Web pg----------

How well do *average people* understand these risks?

heart_ppl_und: Heart attacks
1 - Not at all
2 -
3 -
4 -
5 - Extremely well

ski_ppl_und: Skiing
1 - Not at all
2 -
3 -
4 -
5 - Extremely well

motor_ppl_und: Motor vehicles
1 - Not at all

2 -
3 -
4 -
5 - Extremely well

food_ppl_und: Food preservatives
1 - Not at all
2 -
3 -
4 -
5 - Extremely well

hur_ppl_und: Hurricanes
1 - Not at all
2 -
3 -
4 -
5 - Extremely well

----------End Web pg----------

How well do *experts and scientists* understand these risks?

heart_exp_und: Heart attacks
1 - Not at all
2 -
3 -
4 -
5 - Extremely well

ski_exp_und: Skiing
1 - Not at all
2 -
3 -
4 -
5 - Extremely well

motor_exp_und: Motor vehicles
1 - Not at all
2 -
3 -
4 -
5 - Extremely well

food_exp_und: Food preservatives
1 - Not at all
2 -
3 -
4 -
5 - Extremely well

hur_exp_und: Hurricanes
1 - Not at all
2 -
3 -

4 -
5 - Extremely well

----------End Web pg----------

Some risks affect very few people; others affect almost everyone. How many people do these risks affect in an average year?

heart_dread: Heart attacks
1 - Very few people
2 -
3 -
4 -
5 - Almost everyone

ski_dread: Skiing
1 - Very few people
2 -
3 -
4 -
5 - Almost everyone

motor_dread: Motor vehicles
1 - Very few people
2 -
3 -
4 -
5 - Almost everyone

food_dread: Food preservatives
1 - Very few people
2 -
3 -
4 -
5 - Almost everyone

hur_dread: Hurricanes
1 - Very few people
2 -
3 -
4 -
5 - Almost everyone

----------End Web pg----------

Some risks are rarely deadly to the people who experience them; others are almost always deadly. On average, how deadly are these risks to the people who experience them?

heart_fatal: Heart attacks
1 - Rarely deadly
2 -
3 -
4 -
5 - Almost always deadly

ski_fatal: Skiing
1 - Rarely deadly
2 -
3 -
4 -
5 - Almost always deadly

motor_fatal: Motor vehicles
1 - Rarely deadly
2 -
3 -
4 -
5 - Almost always deadly

food_fatal: Food preservatives
1 - Rarely deadly
2 -
3 -
4 -
5 - Almost always deadly

hur_fatal: Hurricanes
1 - Rarely deadly
2 -
3 -
4 -
5 - Almost always deadly

----------End Web pg----------

income: Was the estimated annual income for your household in 2020:
1 - Less than $50,000 [go to **inc50**]
2 - At least $50,000 but less than $100,000 [go to **inc100**]
3 - At least $100,000 but less than $150,000 [go to **inc150**]
4 - $150,000 or more [go to **inc200**]

----------End Web pg ----------

inc_50: Was the estimated annual income for your household in 2020:
1 - Less than $10,000
2 - $10,000 to less than $20,000
3 - $20,000 to less than $30,000
4 - $30,000 to less than $40,000
5 - $40,000 to less than $50,000

----------End Web pg ----------

inc_100: Was the estimated annual income for your household in 2020:
6 - $50,000 to less than $60,000
7 - $60,000 to less than $70,000
8 - $70,000 to less than $80,000
9 - $80,000 to less than $90,000
10 - $90,000 to less than $100,000

----------End Web pg ----------

inc_150: Was the estimated annual income for your household in 2020:
11 - $100,000 to less than $110,000
12 - $110,000 to less than $120,000
13 - $120,000 to less than $130,000
14 - $130,000 to less than $140,000
15 - $140,000 to less than $150,000

----------End Web pg ----------

inc_200: Was the estimated annual income for your household in 2020:
16 - $150,000 to less than $160,000
17 - $160,000 to less than $170,000
18 - $170,000 to less than $180,000
19 - $180,000 to less than $190,000
20 - $190,000 to less than $200,000
21 - $200,000 or more

----------End Web pg ----------

edu: What is the highest level of education you have COMPLETED?
1 - Less than high school
2 - High school / GED
3 - Vocational or Technical Training
4 - Some College; NO degree
5 - 2-year College / Associate's degree
6 - Bachelor's Degree
7 - Master's Degree
8 - PhD / JD (Law) / MD

----------End Web pg ----------

[SHOW IF **edu** > 3]

degree_spec: Can you tell us the focus of your training or degree? (for example: plumbing, accounting, engineering) [VERBATIM]

----------End Web pg ----------

Research shows that information can influence the way that people answer survey questions. We would like to know if you generally read the information that comes before survey questions. To demonstrate that you have read this text, please ignore the question below and click on the blue dot.

ign_instruct: Which of the following devices do you typically use to answer surveys on the Internet?
1 - A computer
2 - A tablet (such as an iPad)
3 - A smart phone (such as an Android or iPhone)

----------End Web pg ----------

comments: Is there anything else that you would like us to know about how you receive, understand, or respond to information from the National Weather Service?