

Hazard Simplification Survey:

Winter (Cold Weather Region) Version

This is a voluntary survey.

Public reporting burden for this collection of information is estimated at 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 collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to Jen Hilderbrand, NOAA National Weather Service, SSMC 2, Room 17205, 1325 East West Highway, Silver Spring, MD. Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

Review notes: The overall intent of the survey is to assess how the public reacts to the current warning language for different weather hazards and four prototypes reflecting new messaging approaches. The NWS has developed the survey for four hazards: winter storms, thunderstorms, tornadoes, and flooding. The winter storm survey has further distinctions for colder states compared to milder ones (e.g., states with more snow and less snow per year, respectively). Therefore, five hazard-specific surveys will be distributed.

A key aspect of the surveys will be to test the prototypes using changes in severity over time (upgrades and downgrades). For example, as a winter storm approaches an area, the NWS currently may issue a “watch” which may then be later upgraded to a “warning” as the forecasted conditions worsen.

Since there are five messaging sets to test (the current system plus four new prototypes), respondents will be randomly assigned to one of the five message sets. Within the five message sets being tested, respondents will be further randomly assigned to upgrade/downgrade scenarios; the number of upgrade/downgrade scenarios varies by hazard with winter storms and thunderstorms have three, tornadoes having one, and flooding having four.

This version of the instrument provides a complete version for the winter storms survey (cold region) asking the respondent about perceptions of the current system with a warning upgrade. Details on where the survey differs across hazards is provided in notes through the survey.

Within each hazard-specific survey, respondents proceed as follows:

- All respondents will see Questions 1 - 17.
- Prior to Question 18., respondents are randomly assigned to one of the five message sets (current plus the four new prototypes) and to one of the upgrade/downgrade scenarios. The

outcome of the random assignment determines which set of prompts are seen by the respondent.

- Questions 18.- 29. contain the prototype- and upgrade-specific prompts. These are provided in Appendix A. This version contains one set for winter storms in a cold climate: the current system with a warning upgrade.
- All respondents see Questions 30. - 41.

The survey instrument is same across hazards with the following alterations for the different hazard types:

- The term “winter weather” would be replaced by the following terms for each hazard

Thunderstorms	“thunderstorms”
Tornadoes	“tornadoes”
Flooding	“floods” or “flooding”

- The following questions have hazard-specific response options. The table below provides information on where we provide the language for each.

10.	See Appendix B, Table B-1 for hazard-specific versions.
14.	See Appendix B, Table B-2 for hazard-specific versions.
18., 21., 24., 27.	See Section III of this survey and then Appendix A.
19., 22., 25., 28.	See Section III of this survey and then Appendix A.

There are also two other nuances to the survey design to note:

- There are two version of the instrument for winter storms. The criteria for issuing warning and watches for “cold” regions differ from the criteria in milder ones. This is reflected in the snow amounts that are used in the prompts that appear in Appendix A for the “Winter – cold regions” instrument and the “Winter – milder regions” instrument.
- NWS does not issue “advisories” for tornadoes and does not downgrade tornado warnings; thus, there is no “advisory with an upgrade” scenario and no “waning with a downgrade” for tornadoes which simplifies the survey design.
- NWS added a fourth upgrade/downgrade scenario for flooding; emergency with an upgrade.

Part I - Key Demographics

1. **Using the dropdown list, please select the state where your primary residence is located.**
[Dropdown list of the states]
2. **Approximately how long have you lived in that state?**
 - 1 - Less than 1 year
 - 2 - 1 to 3 years
 - 3 - 3 to 5 years
 - 4 - 5 to 10 years
 - 5 - More than 10 years
3. **Including yourself, how many adults age 18 and older live at your primary residence?**
_____ adults aged 18 or older
4. **How many children age 17 and younger live at your primary residence?**
_____ children aged 17 or younger
5. **What type of home is your primary residence?**
 - 1 - Apartment
 - 2 - Single family home
 - 3 - Duplex
 - 4 - Mobile home
 - 5 - Condo or townhouse
 - 6 - Other (please specify) [Verbatim]
6. **Which of the following categories best describes the location of your primary residence?**
 - 1 - Urban location in a densely populated area
 - 2 - Suburban location in a neighborhood that is near a densely populated area
 - 3 - Rural location in a sparsely populated area
7. **If applicable, which of the following categories best describes the environment near your residence?**
 - 1 - River, stream, or small creek
 - 2 - Lake or pond
 - 3 - Ocean or coastal community
 - 4 - Mountain
 - 5 - Not applicable

Part II - General Risk and Weather Questions

8. Using a scale from 1 to 10, where 1 means *no harm* and 10 means *extreme harm*, how do you rate the overall harm from winter storms to:

You	1	2	3	4	5	6	7	8	9	10
Your home/apartment	1	2	3	4	5	6	7	8	9	10
Your local community	1	2	3	4	5	6	7	8	9	10

9. Using a scale from 1 to 10, where 1 means *no threat* and 10 means *extreme threat*, how do you rate the overall threat from winter storms to:

You	1	2	3	4	5	6	7	8	9	10
Your home/apartment	1	2	3	4	5	6	7	8	9	10
Your local community	1	2	3	4	5	6	7	8	9	10

10. How would you describe your feelings when you hear about an impending:

	Very negative feelings	Rather negative feelings	Neither negative nor positive feelings	Rather positive feelings	Very positive feelings
Snow storm	1	2	3	4	5
3-inch snow storm	1	2	3	4	5
12-inch snow storm	1	2	3	4	5

11. Thinking about winter storms, please click on a circle between the pair of words that best describes your feelings.

Stressed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Calm	<input type="radio"/>
Displeased	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Pleased	<input type="radio"/>
Sad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Happy	<input type="radio"/>
Depressed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Elated	<input type="radio"/>

12. Have you or your family members, neighbors, friends, or associates ever experienced property damage, personal injury, or loss of life from a winter storm? Please select all that apply.

- 1 - No
- 2 - Yes, for you personally
- 3 - Yes, for family
- 4 - Yes, for neighbors
- 5 - Yes, for close friends or associates

13. If you were to live in your neighborhood for the rest of your life, what is the probability that you or one of your neighbors will experience property damage, personal injury, or loss of life from a winter storm? Please indicate the probability as a percent.

_____ Percent

14. Using a scale from 1 to 10, where 1 means *strongly disagree* and 10 means *strongly agree*, how do you rate your agreement or disagreement with the following statements:

	Strongly Disagree										Strongly Agree	
My car handles snow very well.	1	2	3	4	5	6	7	8	9	10	NA	
Driving in the snow makes me nervous.	1	2	3	4	5	6	7	8	9	10	NA	
I don't drive if it's snowing.	1	2	3	4	5	6	7	8	9	10	NA	
Shoveling snow is a nuisance.	1	2	3	4	5	6	7	8	9	10	NA	
I have access to a snowblower.	1	2	3	4	5	6	7	8	9	10	NA	
My job allows me to telecommute during bad weather.	1	2	3	4	5	6	7	8	9	10	NA	
As an essential employee, I am required to show up for work no matter the weather.	1	2	3	4	5	6	7	8	9	10	NA	
It's difficult to find someone to watch the kids when there's a snow day.	1	2	3	4	5	6	7	8	9	10	NA	
I can easily stay home to watch my children if there's a snow day.	1	2	3	4	5	6	7	8	9	10	NA	
Winter storms influence me to change my schedule.	1	2	3	4	5	6	7	8	9	10	NA	
I enjoy snow activities such as skiing, sledding, snowshoeing, etc.	1	2	3	4	5	6	7	8	9	10	NA	

15. Using a scale from 1 to 10, where 1 means *strongly disagree* and 10 means *strongly agree*, please rate your agreement or disagreement with the following. Understanding the risks posed by winter storms is:

	Strongly Disagree										Strongly Agree	
Wise	1	2	3	4	5	6	7	8	9	10		
Useful	1	2	3	4	5	6	7	8	9	10		
Valuable	1	2	3	4	5	6	7	8	9	10		
Beneficial	1	2	3	4	5	6	7	8	9	10		

16. Using a scale from 1 to 10, where 1 means *strongly disagree* and 10 means *strongly agree*, please rate your agreement or disagreement with the following statements.

	Strongly Disagree					Strongly Agree				
<i>I can't make sense of information about winter storms.</i>	1	2	3	4	5	6	7	8	9	10
<i>When it comes to information about winter storms, I don't know how to separate facts from fiction.</i>	1	2	3	4	5	6	7	8	9	10
<i>Most information about winter storms is too technical for me to understand.</i>	1	2	3	4	5	6	7	8	9	10
<i>I can't understand information about winter storms even if I make an effort.</i>	1	2	3	4	5	6	7	8	9	10

17. Using a scale from 1 to 10, where 1 means *strongly disagree* and 10 means *strongly agree*, please rate your agreement or disagreement with the following statements.

	Strongly Disagree					Strongly Agree				
<i>My friends expect me to know something about winter storms.</i>	1	2	3	4	5	6	7	8	9	10
<i>Most people who are important to me think I should know something about winter storms.</i>	1	2	3	4	5	6	7	8	9	10
<i>My family expects me to know something about winter storms.</i>	1	2	3	4	5	6	7	8	9	10

Part III – Winter Messaging Treatments

Now, we have a few questions about WINTER WEATHER MESSAGES and how you might respond to them in the future. In this section of the survey, it is important that you are realistic and honest about how you might respond to the different scenarios. Government officials may consider your responses when making decisions about how to issue messages in the future.

Note: At this point, respondents are assigned to one of five prototypes:

- *Current system*
- *Prototype 1*
- *Prototype 2*
- *Prototype 3*
- *Prototype 4*

Respondents are then asked to respond to four prompts that use the prototype. The sequence of prompts reflects how NWS tends to implement these messages. Respondents are also assigned to an upgrade/downgrade scenario. For winter weather, there are three possible upgrade/downgrade scenarios:

- *Warning with an upgrade*
- *Advisory with an upgrade*
- *Warning with a downgrade*

As an example of how this works, the following provides the sequence for the current system for a the “warning with an upgrade” scenario. The text for other prompts and other scenarios appears in Appendix A.

[Prompt 1: Base information; all respondents see the base information]

18. While you are at home on a Sunday, during daylight hours, if you were to learn that the NWS is forecasting the potential for 6-10 inches of snow on Wednesday, which of the following most accurately describes what you would do?

- 1 - Nothing – I would continue my current activities as usual
- 2 - Monitor – I would monitor weather information sources such as TV news, websites, NOAA weather radio, etc.
- 3 - Prepare – I would start preparing for the storm such as buying or ensuring I had enough salt, checking snow blower, gassing up the car, purchasing groceries, setting up a babysitter, etc.
- 4 - Take some action – I would continue daily activities, but allow more time
- 5 - Take protective action – I would cancel activities, prepare to telecommute or take a day off from work, etc.

19. Given the forecast information provided, how likely are you to do the following:

	<i>Very Unlikely</i>				<i>Very Likely</i>
	1	2	3	4	5
<i>Monitor weather forecasts closely</i>	1	2	3	4	5
<i>Prepare for the storm by buying or ensuring I had enough salt, checking snow blower, gassing up the car, purchasing groceries, setting up a babysitter, etc.</i>	1	2	3	4	5
<i>Take protective action such as canceling activities, preparing to telecommute or taking a day off from work, etc.</i>	1	2	3	4	5

20. To what extent do you agree with the following statements

	<i>Strongly disagree</i>							<i>Strongly agree</i>		
	1	2	3	4	5	6	7	8	9	10
The information provided in the forecast was useful	1	2	3	4	5	6	7	8	9	10
The information provided in the forecast was understandable	1	2	3	4	5	6	7	8	9	10
I am confident that the forecasted conditions will occur	1	2	3	4	5	6	7	8	9	10

[Prompt 2: NWS issues a “watch”; all respondents see the watch.]

21. Now imagine that it is still Sunday and that the NWS has issued a WINTER STORM OUTLOOK for your local area with the potential for 6-10 inches of snow, which of the following most accurately describes what you would do?

- 1 - Nothing – I would continue my current activities as usual
- 2 - Monitor – I would monitor weather information sources such as TV news, websites, NOAA weather radio, etc.
- 3 - Prepare – I would start preparing for the storm such as buying or ensuring I had enough salt, checking snow blower, gassing up the car, purchasing groceries, setting up a babysitter, etc.
- 4 - Take some action – I would continue daily activities, but allow more time
- 5 - Take protective action – I would cancel activities, prepare to telecommute or take a day off from work, etc.

22. Given the forecast information provided, how likely are you to do the following:

	<i>Very Unlikely</i>				<i>Very Likely</i>
	1	2	3	4	5
<i>Monitor weather forecasts closely</i>	1	2	3	4	5
<i>Prepare for the storm by buying or ensuring I had enough salt, checking snow blower, gassing up the car, purchasing groceries, setting up a babysitter, etc.</i>	1	2	3	4	5
<i>Take protective action such as canceling activities, preparing to telecommute or taking a day off from work, etc.</i>	1	2	3	4	5

23. To what extent do you agree with the following statements

	<i>Strongly disagree</i>							<i>Strongly agree</i>		
	1	2	3	4	5	6	7	8	9	10
The information provided in the forecast was useful	1	2	3	4	5	6	7	8	9	10
The information provided in the forecast was understandable	1	2	3	4	5	6	7	8	9	10
I am confident that the forecasted conditions will occur	1	2	3	4	5	6	7	8	9	10

[Prompt 3: NWS issues a “Warning” or an “Advisory”; what the respondent sees depends on what scenario they are assigned to. This is a warning.]

24. Now imagine that it is Monday evening and The NWS has issued a WINTER STORM WARNING for 6-10 inches of snow starting Wednesday morning through the evening. Which of the following most accurately describes what you would do?

- 1 - Nothing – I would continue my current activities as usual
- 2 - Monitor – I would monitor weather information sources such as TV news, websites, NOAA weather radio, etc.
- 3 - Prepare – I would start preparing for the storm such as buying or ensuring I had enough salt, checking snow blower, gassing up the car, purchasing groceries, setting up a babysitter, etc.
- 4 - Take some action – I would continue daily activities, but allow more time
- 5 - Take protective action – I would cancel activities, prepare to telecommute or take a day off from work, etc.

25. Given the forecast information provided, how likely are you to do the following:

	<i>Very Unlikely</i>				<i>Very Likely</i>
	1	2	3	4	5
<i>Monitor weather forecasts closely</i>	1	2	3	4	5
<i>Prepare for the storm by buying or ensuring I had enough salt, checking snow blower, gassing up the car, purchasing groceries, setting up a babysitter, etc.</i>	1	2	3	4	5
<i>Take protective action such as canceling activities, preparing to telecommute or taking a day off from work, etc.</i>	1	2	3	4	5

26. To what extent do you agree with the following statements

	<i>Strongly disagree</i>							<i>Strongly agree</i>		
	1	2	3	4	5	6	7	8	9	10
The information provided in the forecast was useful	1	2	3	4	5	6	7	8	9	10
The information provided in the forecast was understandable	1	2	3	4	5	6	7	8	9	10
I am confident that the forecasted conditions will occur	1	2	3	4	5	6	7	8	9	10

[Prompt 4: NWS either upgrades or downgrades the warning/advisory; this is a warning upgrade]

27. Now imagine that it is Tuesday evening and that you received the following information. "The NWS has changed their forecast to a WINTER STORM WARNING now expecting 14-18 inches of snow starting on Wednesday morning through the evening." Which of the following most accurately describes what you would do?

- 1 - Nothing – I would continue my current activities as usual
- 2 - Monitor – I would monitor weather information sources such as TV news, websites, NOAA weather radio, etc.
- 3 - Prepare – I would start preparing for the storm such as buying or ensuring I had enough salt, checking snow blower, gassing up the car, purchasing groceries, setting up a babysitter, etc.
- 4 - Take some action – I would continue daily activities, but allow more time
- 5 - Take protective action – I would cancel activities, prepare to telecommute or take a day off from work, etc.

28. Given the forecast information provided, how likely are you to do the following:

	<i>Very Unlikely</i>				<i>Very Likely</i>
	1	2	3	4	5
<i>Monitor weather forecasts closely</i>	1	2	3	4	5
<i>Prepare for the storm by buying or ensuring I had enough salt, checking snow blower, gassing up the car, purchasing groceries, setting up a babysitter, etc.</i>	1	2	3	4	5
<i>Take protective action such as canceling activities, preparing to telecommute or taking a day off from work, etc.</i>	1	2	3	4	5

29. To what extent do you agree with the following statements

	<i>Strongly disagree</i>							<i>Strongly agree</i>		
	1	2	3	4	5	6	7	8	9	10
The information provided in the forecast was useful	1	2	3	4	5	6	7	8	9	10
The information provided in the forecast was understandable	1	2	3	4	5	6	7	8	9	10
I am confident that the forecasted conditions will occur	1	2	3	4	5	6	7	8	9	10

Part IV - Sources

30. How closely do you follow ...

<i>Your local weather</i>	Very closely	Somewhat closely	Not very closely	Not at all closely	No Answer
<i>The weather where your friends or family live</i>	Very closely	Somewhat closely	Not very closely	Not at all closely	No Answer
<i>National Weather</i>	Very closely	Somewhat closely	Not very closely	Not at all closely	No Answer

31. Thinking about the weather, how often do you get weather information...

<i>a. On a desktop or laptop computer</i>	Often	Sometimes	Hardly Ever	Never	No Answer
<i>b. On a mobile device (such as a smartphone or tablet)</i>	Often	Sometimes	Hardly Ever	Never	No Answer

If 31.a = "often," "sometimes," or "hardly ever" AND 31.b = "often," "sometimes," or "hardly ever"; then go to 32., else skip to 33..

32. How do you prefer to get your weather information?

- 1 - On a desktop or laptop
- 2 - On a mobile device (such as a smartphone or tablet)

33. How often do you...

<i>Read weather in print?</i>	Often	Sometimes	Hardly Ever	Never	No Answer
<i>Listen to weather on the radio?</i>	Often	Sometimes	Hardly Ever	Never	No Answer
<i>Watch local television weather?</i>	Often	Sometimes	Hardly Ever	Never	No Answer
<i>Watch national evening network television weather?</i>	Often	Sometimes	Hardly Ever	Never	No Answer
<i>Watch cable television weather (such as The Weather Channel, WeatherNation, or AccuWeather)?</i>	Often	Sometimes	Hardly Ever	Never	No Answer
<i>Get weather from a social networking site (such as Facebook or Twitter)?</i>	Often	Sometimes	Hardly Ever	Never	No Answer
<i>Get weather from a website or application?</i>	Often	Sometimes	Hardly Ever	Never	No Answer

34. Which of the following would you say you prefer for getting *daily* weather information? (choose one)

- 1 - Reading weather in a print newspaper
- 2 - Listening to weather on the radio
- 3 - Watching weather on television
- 4 - Getting weather from a social networking site (such as Facebook or Twitter)
- 5 - Getting weather from a website or app

35. Which of the following would you say you prefer for getting *winter storm* information? (choose one)

- 1 - Reading weather in a print newspaper
- 2 - Listening to weather on the radio
- 3 - Watching weather on television
- 4 - Getting weather from a social networking site (such as Facebook or Twitter)
- 5 - Getting weather from a website or app

Part V – Demographics

36. What is your age?

- 1 - 18 to 24 years
- 2 - 25 to 34 years
- 3 - 35 to 44 years
- 4 - 45 to 54 years
- 5 - 55 to 64 years
- 6 - Age 65 or older

37. What is the highest level of education you have completed?

- 1 - Elementary, junior high or some high school
- 2 - High school graduate/GED
- 3 - Some college/vocational school
- 4 - College graduate
- 5 - Some graduate work
- 6 - Master's degree
- 7 - Doctorate (of any type)
- 8 - Other degree [Verbatim]

38. Are you male or female?

- 0 - Female
- 1 - Male

39. Are you, yourself, of Hispanic or Latino origin or descent, such as Mexican, Puerto Rican, Cuban, or other Spanish background?

- 0 - No, I am not of Hispanic or Latino origin or descent.
- 1 - Yes, I am of Hispanic or Latino origin or descent.

40. 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

41. Thinking specifically about the past 12 months, what was your annual household income from all sources?

- 1 - Less than \$24,999
- 2 - \$25,000 – \$49,999
- 3 - \$50,000 – \$99,999
- 4 - \$100,000 – \$199,999
- 5 - \$200,000 or more