

Public Survey of National Hurricane Center Arrival of Tropical Storm Force Winds Product Online Survey Instrument, November 1, 2017

This is a voluntary survey

Paperwork Reduction Act Statement

The National Weather Service and National Hurricane Center have been updating their products and services, and provides a list of products and services to be updated for the upcoming storm season. The Weather Research and Forecasting Innovation Act of 2017 (Public Law No: 115-25 (4/18/2017) requires the National Oceanic and Atmospheric Administration (NOAA) to improve weather data, modeling, computing, forecasts, and warnings for the protection of life and property and the enhancement of the national economy (Sec. 101). Specifically, Sec. 104 requires NOAA and the NWS to plan and maintain a project to improve hurricane forecasting, including, (1) the prediction of rapid intensification and track of hurricanes, (2) the forecast and communication of storm surges from hurricanes, and (3) risk communication research to create more effective watch and warning products.

This public survey on the general public's interpretation and understanding of the new Arrival of Tropical Storm Force Winds graphic directly supports the NHC mission to "save lives, mitigate property loss, and improve economic efficiency by issuing the best watches, warnings, forecasts and analyses of hazardous tropical weather, and by increasing understanding of these hazards.

Public reporting burden for this collection of information is estimated to average 10 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 Jennifer Sprague, NOAA National Weather Service, Jennifer.sprague@noaa.gov.

Abt Associates will not release your name or information that could identify you as part of this online survey or in our subsequent reports to NOAA's National Weather Service and National Hurricane Center. 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.

Online Survey Instrument

Introduction

The National Oceanographic and Atmospheric Administration's National Weather Service and National Hurricane Center have been updating and improving their products, services, and information to effectively convey tropical cyclone risk and uncertainty, resulting in more resilient behaviors that reduce losses of life and property. The National Hurricane Center seeks public feedback on a new experiment product for the 2017 Hurricane Season, the arrival of sustained tropical storm force winds.

Residence Qualifiers/Screeners

In what state or territory do you currently live?
(DROP DOWN MENU PROVIDED)

In what county (or independent city) do you currently live?
(STATE-SPECIFIC DROP DOWN MENU PROVIDED)

Is [COUNTY/CITY, STATE/TERRITORY] your year-round or permanent residence?
Yes (CONTINUE SURVEY)
No (CHECK 6-MONTH RESIDENCE STATUS)
Don't know (CHECK 6-MONTH RESIDENCE STATUS)

(IF NO, IS NOT YEAR-ROUND OR PERMANENT RESIDENCE)
Do you live in [COUNTY/CITY, STATE/TERRITORY] at least 6 months of the year?

Yes (CHECK RESIDENCE DURING HURRICANE SEASON STATUS)
No (DISCONTINUE SURVEY)
Don't know (DISCONTINUE SURVEY)

(IF NO, IS NOT YEAR-ROUND OR PERMANENT RESIDENCE BUT YES, DOES LIVE THERE AT LEAST 6 MONTHS OF THE YEAR)

Do you typically reside in [COUNTY/CITY, STATE/TERRITORY] during hurricane season, that is, from June to November?

Yes (CONTINUE SURVEY)
No (DISCONTINUE SURVEY)
Don't know (DISCONTINUE SURVEY)

Residence and General Storm and Hurricane Experience

How many years have you resided at your current residence in [COUNTY/CITY, STATE/TERRITORY]?

(If less than one year, please enter "1")
(OPEN-ENDED QUESTION; TEXT BOX PROVIDED) years

(IF TX/FL/USVI/PR RESIDENT)

(INTERNAL NOTE: UNSURE OF SUCCESSFULLY REACHING USVI AND PR RESIDENTS AT THIS TIME; LIKELY VERY LOW)

Did you make any special preparations prior to or during the threat of Hurricane [HARVEY / IRMA / IRMA AND MARIA / MARIA] recently?

Yes
No
Don't know

(IF NOT TX/FL/USVI/PR RESIDENT)

Thinking about the last major tropical storm or hurricane in the area in which you currently live, did you make any special preparations prior to or during the threat of this tropical storm or hurricane?

Yes
No
Don't know

(IF YES, MADE PREPARATIONS IN RESPONSE TO EITHER OF PREVIOUS TWO QUESTIONS)

How far in advance of its anticipated arrival did you begin preparations for this tropical storm or hurricane?

(OPEN-ENDED QUESTION; TEXT BOX PROVIDED) days/hours

Did you leave the area prior to or during the threat of this tropical storm or hurricane?

Yes
No
Don't know

(IF YES, LEFT THE AREA)

How far in advance of its anticipated arrival did you leave?

(OPEN-ENDED QUESTION; TEXT BOX PROVIDED) days/hours

Opinions on Potential Storm and Hurricane Activity

How worried are you that a major tropical storm or hurricane will hit your area during the next 12 months?

- Very worried
- Somewhat worried
- Not at all worried
- Don't know

Do you typically make special preparations when your area is threatened by a tropical storm or hurricane?

- Yes
- No
- Don't know

If an evacuation was ordered for your area due to a major tropical storm or hurricane within the next 12 months, would you leave the area or would you stay?

- Definitely leave the area
- Probably leave the area
- Probably stay in the area
- Definitely stay in the area
- Depends on situation / details
- Don't know

Sources of Information on Storm and Hurricane Activity

How do you typically receive news or information about pending tropical storms and hurricanes?

- Internet
- Social media (e.g., Facebook, Instagram, Twitter, YouTube)
- TV
- Radio
- Other (ENTER OTHER; TEXT BOX PROVIDED)
- Don't know

(IF TYPICALLY USES INTERNET AS A SOURCE OF NEWS OR INFORMATION)

Which websites do you use?

(OPEN-ENDED QUESTION; UNLIMITED TEXT BOX PROVIDED)

When you become aware that a tropical storm or hurricane may potentially impact or affect your area or community, do you ever use the National Hurricane Center's website (www.nhc.noaa.gov) to get information?

(The National Hurricane Center, or NHC, is division and service of the National Oceanic and Atmospheric Administration, or NOAA.)

- Yes
- No
- Don't know

Knowledge Levels of and Opinions on Storm and Hurricane Activity and Information

In general, how much would you say you know about tropical storms and hurricanes?

- A great deal
- A moderate amount
- A little
- Nothing

Don't know

How much would you say you know about official advisories and warnings for tropical storms and hurricanes?

- A great deal
- A moderate amount
- A little
- Nothing
- Don't know

How important would you say the advisory and warning information you have seen is to your decision on when to begin preparing for a tropical storm or hurricane?

- Extremely important
- Very important
- Somewhat important
- A little important
- Not at all important
- Don't know

How important would you say the advisory and warning information you have seen is to your decision on whether to leave the area or stay?

- Extremely important
- Very important
- Somewhat important
- A little important
- Not at all important
- Don't know

Based on the information you have seen for advisories and warnings about tropical storms and hurricanes that threaten your area, how would you rate that information in each of the following areas?

(ADMINISTERED IN RANDOM ORDER)

- Readability (i.e., how easy it is to read)
- Understandability (i.e., how easy it is to understand)
- Usefulness (i.e., how useful it is)
- Reliability (i.e., how reliable it is)
- Effectiveness (i.e., how effective it is at communicating the advisory or warning)

(RATE EACH AREA)

- Excellent
- Good
- Fair
- Poor
- Don't know

Opinions on and Likely Use of NHC Expected Arrival Graphics

The National Hurricane Center (NHC) website provides graphic analyses and forecasts for tropical storms and hurricanes. The NHC would like your feedback on some of the graphics it uses to communicate information about tropical-storm-force winds.

(RESPONDENT WILL RANDOMLY RECEIVE THE EARLIEST ARRIVAL GRAPHIC OR THE MOST LIKELY ARRIVAL GRAPHIC SPECIFIC TO HIS/HER REGION)

(RESPONDENT WILL ALSO RANDOMLY RECEIVE THE COLOR OR NON-COLOR VERSION OF THE ARRIVAL GRAPHIC SPECIFIC TO HIS/HER REGION)

This graphic provides information about tropical-storm-force winds for a tropical storm or hurricane event.

In your own words, can you please briefly explain what information you get from this graphic when you look at it?

(OPEN-ENDED QUESTION; UNLIMITED TEXT BOX PROVIDED)

[GRAPHIC REMAINS AT THE TOP OF THE SCREEN THROUGHOUT THE FOLLOWING QUESTIONS]

Thank you. Next, we have some more specific questions about this graphic. Your answers will help us improve our graphics and better communicate with the public during a storm.

More specifically, this graphic provides information about the *possible arrival time* of tropical-storm-force winds in [GULFPOINT / ATLANTIC CITY / JACKSONVILLE / SAN JUAN / HONOLULU] and surrounding areas for a tropical storm or hurricane event.

While this graphic provides the information about a previous storm, we would like to know about your use of and opinions on this type of graphic in general, for any future tropical storm or hurricane events.

How likely are you to use this same type of graphic to determine if and when you should begin preparations for a pending tropical storm or hurricane event?

Very likely

Somewhat likely

Not at all likely

Don't know

Specifically, what day and time does this graphic indicate that the tropical-storm-force winds could arrive in the [GULFPOINT / ATLANTIC CITY / JACKSONVILLE / SAN JUAN / HONOLULU] area?

(OPEN-ENDED QUESTION; TEXT BOX PROVIDED)

Based on the area where you currently live and its proximity to [GULFPOINT / ATLANTIC CITY / JACKSONVILLE / SAN JUAN / HONOLULU], about what day and time does this graphic indicate that the tropical-storm-force winds could arrive in the area where you currently live?

(OPEN-ENDED QUESTION; TEXT BOX PROVIDED)

Based on this graphic, what is the chance that the area where you currently live will experience the tropical-storm-force winds?

(OPEN-ENDED QUESTION; TEXT BOX PROVIDED) %

Based on this graphic, what is the chance that the area where you currently live will experience the expected tropical-storm-force winds?

(OPEN-ENDED QUESTION; TEXT BOX PROVIDED) %

Given the chance of tropical-storm-force winds according to this graphic, how likely are you to make preparations for a tropical storm or hurricane event?

Very likely

Somewhat likely
Not at all likely
Don't know

(IF VERY OR SOMEWHAT LIKELY TO MAKE PREPARATIONS)

Based on when the tropical-storm-force winds could arrive in your area in this graphic, what time would you begin preparing for those winds?

(OPEN-ENDED QUESTION; TEXT BOX PROVIDED)

(IF NOT AT ALL LIKELY TO MAKE PREPARATIONS)

What are the main reasons you would not be likely to make preparations for a tropical storm or hurricane event?

(OPEN-ENDED QUESTION; TEXT BOX PROVIDED)

If you were to use this graphic for planning purposes during a tropical storm or hurricane event, how often would you check it for updates?

(OPEN-ENDED QUESTION; TEXT BOX PROVIDED)

How would you rate this graphic in each of the following areas?

(ADMINISTERED IN RANDOM ORDER)

Readability (i.e., how easy it is to read)

Understandability (i.e., how easy it is to understand)

Usefulness (i.e., how useful it is)

Reliability (i.e., how reliable it is)

Effectiveness (i.e., how effective it is at communicating the information)

(RATE EACH AREA)

Excellent

Good

Fair

Poor

Don't know

(FOR EACH AREA NOT RATED AS EXCELLENT)

What are the specific reasons you did not rate [AREA] higher?

(OPEN-ENDED QUESTION; UNLIMITED TEXT BOX PROVIDED)

In your opinion, is there any information that is unclear or confusing in this graphic?

Yes

No

Don't know

(IF YES, THERE IS UNCLEAR OR CONFUSING INFORMATION IN THIS GRAPHIC)

Specifically, what information is unclear or confusing in this graphic?

(OPEN-ENDED QUESTION; UNLIMITED TEXT BOX PROVIDED)

In your opinion, is there any information related to wind timing that is missing from this graphic?

Yes

No

Don't know

(IF YES, THERE IS INFORMATION MISSING FROM THIS GRAPHIC)
Specifically, what information is missing from this graphic?
(OPEN-ENDED QUESTION; UNLIMITED TEXT BOX PROVIDED)

Please indicate the extent to which you agree or disagree with each of the following about this graphic.

Do you agree or disagree that...?

(ADMINISTERED IN RANDOM ORDER)

...the fonts used are large enough

...the color coding is understandable

...you know for sure if the expected areas affected include your current area of residence

...you know for sure what time the winds could arrive in your current area of residence

This graphic gives you the [EARLIEST / MOST LIKELY] time that the NHC anticipates tropical-storm-force winds will arrive in a particular area, and the graphic is updated every 6 hours. Another option is for the NHC to display the [MOST LIKELY / EARLIEST] time tropical-storm-force winds could arrive. Which would you prefer to see when planning for the arrival of storm conditions—the [EARLIEST] or [MOST LIKELY] arrival time?

Earliest

Most likely

No preference

Don't know

Demographic Data

You are almost finished. The final questions are for background information and help us analyze the results.

What is your current age?

(OPEN-ENDED QUESTION; TEXT BOX PROVIDED) years

What is your current zip code?

(ENTER ZIP CODE)

Are you of Hispanic or Latino descent or origin?

Yes

No

Don't know

What is your race?

Please check all that apply.

American Indian or Alaska Native

Asian

Black or African American

Native Hawaiian or Other Pacific Islander

White

Other (ENTER OTHER)

Don't know

What is the highest level of education you have completed?

Not a high school graduate

High school graduate or equivalent
Some college or trade school, no degree
Associate's or trade school degree
Bachelor's degree
Master's degree
Professional or doctorate degree (e.g., M.D., Ph.D.)
Don't know

Do you consider your current place of residence to be a large city or urban area, a suburban area, a small city or town, a rural area on a farm or ranch, or a rural area NOT on a farm or ranch?

Large city or urban area
Suburban area
Small city or town
Rural area on a farm or ranch
Rural area NOT on a farm or ranch
Don't know

Are you...?

Male
Female