NIST Hurricane Maria Investigation Emergency Communications Household Survey

TELEPHONE Part 1 - Intro, Consent, Screening

OMB Control #0693-0078 Expiration Date: 07/31/2022

Agency contact information may be found at the end of this survey.

Part 1: Introduction

Thank you for responding to the postcard you received. We are investigating information sharing and emergency risk communication during Hurricane Maria in Puerto Rico on behalf of the National Institute of Standards and Technology (NIST). We are interested in your experience with emergency communications before and during Hurricane Maria on September 20, 2017. Since the hurricane was over three years ago, we understand that you may not remember everything perfectly. That's okay, please answer to the best of your ability. We expect findings from these surveys will lead to recommendations for policy, procedures, and codes that benefit life safety during future hurricanes.

With your permission, our conversation will be audio recorded and transcribed into a written record for this purpose and for future research.

Do you give us permission to record and use your information for this purpose?

Yes (Proceed with recording)

No

This survey poses no risks or benefits to you personally. Your participation is voluntary and without compensation. You may refuse to answer any question raised. The survey will take approximately 25 minutes. Any sensitive or personal information that you provide will be kept confidential to the extent permitted by law. We will not release information such as your name, phone number, or address.

You will remain anonymous, and the information collected will be combined or aggregated with information that we obtain from other individuals. Information collected in this survey may be shared by NIST with researchers at NIST or with researchers outside NIST. The information that you provide may be used in future research. Any future research will include protections to ensure that both the sharing and use of the information complies with the conditions just described.

Do you consent to our using the information that you provide in the way that was described?

Please confirm your consent to participate in this survey by selecting one of the following:
Consents
Does not consent
<u>Part 2: Screening Questions</u>
Are you at least 21 years of age?
O Yes
O No
Were you living on Puerto Rico in 2017 and on the island during Hurricane Maria?
O Yes
O No
Were you involved in household preparations for Hurricane Maria?
O Yes
O No
Lastly, do you still live at the same location as before Hurricane Maria?
O Yes
O No

Is there someone else in your household who is:
 at least 21 years of age? was living on Puerto Rico in 2017 and on island during Hurricane Maria? was involved in household preparations for Hurricane Maria? and still lives at this location?
If so, select yes, and please have them take the survey. Thank you.
O Yes O No
Part 3: Background & Previous Experience Questions
Part 3: Background & Previous Experience Questions
We would like to learn about your experiences with hurricanes and other natural hazards before Hurricanes Irma and Maria in 2017.
Q6. Before Hurricanes Irma and Maria, how many hurricanes had you experienced? (Select only one) Interviewer - Read List
O None; Irma and Maria were the first hurricanes I experienced
O 1-2
O 3-4 O 5 or more
O I don't know
Q7. Before Hurricanes Irma and Maria, how many times had you evacuated from a hurricane? Evacuation is defined as leaving your home or location to go to a safer place, including a public shelter. (Select only one) Interviewer - Read List
None: I never evacuated before Hurricanes Irma and Maria

O 1-2

O 3-4

O I don't know			
Q8. Before Hurricanes Irn following from a hurricar Interviewer - Read List			
	Yes	No	I don't know
a. Damage to my home	0	0	0
b. Loss of utilities at my home for more than 48 hours	0	0	0
c. Flooding affecting my home or property	0	0	0
d. Landslides affecting my home or property	0	0	0
Q9. Before Hurricanes Irn (Select only one) Interviewer - Read List Less than 1 year 1-4 years 5-9 years 10 or more years I don't know	na and Maria, hov	v long had you lived	l in your home?
Q10. Before Hurricanes Irr yourself or others)? (Sele Interviewer - Read List		s your home ownec	d or rented (by
Owned Rented I don't know			
Q11. Before Hurricanes Irn	na and Maria, had	d you done any of th	ne following to

QII. Before Hurricanes Irma and Maria, had you done any of the following to prepare for a hurricane? (Select one response for each item)

Interviewer - Read List

	Yes	No	I don't know
a. Signed up for alerts or warnings	0	0	0
b. Made a plan for evacuation (such as where to go)	0	0	0
c. Set aside food, water, medicine, or other supplies	0	0	0
d. Took steps to protect home from winds, rain, or debris	0	0	0
e. Attended training on hurricane preparedness	0	0	0
f. Talked with others about hurricane preparation	0	0	0
g. Had insurance coverage for a natural hazard (any)	0	0	0
Q12. Before Hurricanes Irn to stay in during a hurrica Interviewer - Read List			your home would be
) Very safe			
) Somewhat safe			
) Somewhat unsafe			
Very unsafe			
) I don't know			

Part 4 - Communication Questions

Part 4: Communication Questions

We would like to learn about emergency communication and messages you received before Hurricane Maria. This includes evacuation messages and other

Q13. In the days before Hurricane Maria, did you receive evacuation related information from the following sources? (Select one response for each item) Interviewer - Ask "Did you receive information from. . ." for each source

	Yes	No	I don't know
a. National Hurricane Center or National Weather Service	0	0	0
b. National TV, radio, or internet broadcaster (for example, David Begnaud)	0	0	0
c. Governor	0	0	0
d. Fire department or police	0	0	0
e. Puerto Rico Emergency Management Agency or local emergency manager	0	0	0
f. Mayor (of your municipality)	0	0	0
g. Local/regional TV, radio, or internet broadcaster (for example, Ada Monzon, Deborah Martorell, John Toohey- Morales)	0	0	0
h. Family member, neighbor, co-worker, or friend	0	0	0

Q14. In the days before Hurricane Maria, did you receive any evacuation-related information through the following information channels (Select one response for each item)

Interviewer - Ask "Did you receive information from. . ." for each channel

Yes No I don't know

	Yes	No	I don't know
a. Cell phone (calls or texts)	0	0	0
b. Landline phone (calls or automated messages)	0	0	0
c. Government, agency, organization, or news websites	0	0	0
d. Social media (such as Facebook or Twitter)	0	0	0
e. Television	0	0	0
f. Newspaper	0	0	0
g. Radio	0	0	0
h. Public address system, megaphones, messages or signage	0	0	0
i. Face-to-face / in- person	0	0	0

Q15. Before Hurricane Maria, did you consider the following sources to be trustworthy for providing accurate evacuation-related and emergency information about hurricanes? This question uses a response scale of 1 to 5 where 1 signifies "Not at all trustworthy" and 5 signifies "Extremely trustworthy". (Select one response for each item)

Interviewer - Read List of sources

	Not at all trustworthy	Slightly trustworthy	Moderately useful	Very trustworthy	Extremely trustworthy
a. National Hurricane Center or National Weather Service	0	0	0	0	0
b. National TV, radio, or internet broadcaster (for example, David Begnaud)	0	0	0	0	0
c. Governor	0	0	0	0	0
d. Fire department or police	0	0	0	0	0

	Not at all trustworthy	Slightly trustworthy	Moderately useful	Very trustworthy	Extremely trustworthy
e. Puerto Rico Emergency Management Agency or local emergency manager	Ο	0	0	0	0
f. Mayor (of your municipality)	0	0	0	0	0
g. Local/regional TV, radio, or internet broadcaster (for example, Ada Monzon, Deborah Martorell, John Toohey-Morales)	0	0	0	0	0
h. Family member, neighbor, co-worker, or friend	0	0	0	0	0

Q16. Before Hurricane Maria, was this channel one of your preferred ways for getting hurricane or evacuation-related information? (Select one response for each item).

	Yes	No	I don't know
a. Cell phone (calls or texts)	0	0	0
b. Landline phone (calls or automated messages)	0	0	0
c. Government, agency, organization, or news websites	0	0	0
d. Social media (such as Facebook or Twitter)	0	0	0
e. Television	0	0	0
f. Newspaper	0	0	0
g. Radio	0	0	0
h. Public address system, megaphones messages or signage	0	0	0

	Yes	No	I don't know
i. Face-to-face / in- person	0	0	0
Q17. Leading up to Hurric information about any o Interviewer - Read list of	f the following top	•	_
	Yes	No	I don't know
a. Hurricanecharacteristics(strength, windspeed, etc.)	0	0	0
b. Potential to affect utilities (power, water, etc.)	0	0	0
c. Risk for flooding or landslides at my location	0	0	0
d. Potential to affect my home	0	0	0
e. Actions to keep safe	0	0	0
f. Where to get supplies to prepare	0	0	0
g. Emergency plans for medical care, medication, and/or hospitals	0	0	0
h. Emergency plans for workplace or school/childcare	0	0	0
i. Transportation options for evacuation	0	0	0
j. Location of open nearby shelters	0	0	0
k. Location of shelters that would accept pets	0	0	0

Part 5: Evacuation Decision Questions

We would now like to learn more about your decision on whether or not to evacuate from Hurricane Maria.

Q18. Whether or not you evacuated, how much did the following pre-storm considerations influence your decision about whether or not to evacuate from Hurricane Maria? This question uses a response scale of 1 to 5 where 1 signifies "Did not influence" and 5 signifies "Influenced a very great deal". (Select one response for each item)

Interviewer – Read each consideration, Repeat scale as necessary

	l Did not influence	2 Slightly influenced	3 Moderately influenced	4 Influenced a great deal	5 Influenced a very great deal
a. Announcement of hurricane "watch" or "warning"	0	0	0	0	0
b. Previous experience with hurricanes	0	0	0	0	0
c. Observing others preparing to evacuate	0	0	0	0	0
d. Observing others preparing to stay	0	0	0	0	0
e. Recommendations or orders to evacuate	0	0	0	0	0
	l Did not influence	2 Slightly influenced	3 Moderately influenced	4 Influenced a great deal	5 Influenced a very great deal
f. Lack of physical resources to evacuate (no car, etc.)	0	0	0	0	0
g. Physical or medical impediments for yourself or others you care for	0	0	0	0	0

	l Did not influence	2 Slightly influenced	3 Moderately influenced	4 Influenced a great deal	5 Influenced a very great deal
h. The expense of evacuation	0	0	0	0	0
i. Traffic accidents or traffic jams during evacuation	0	0	0	0	0

Q19. Whether or not you evacuated, how much did the following storm impact considerations influence your decision whether or not to evacuate from Hurricane Maria? This question uses a response scale of 1 to 5 where 1 signifies "Did not influence" and 5 signifies "Influenced a very great deal". (Select one response for each item)

Interviewer – Read each consideration, Repeat scale as necessary

	l Did not influence	2 Slightly influenced	3 Moderately influenced	4 Influenced a great deal	5 Influenced a very great deal
a. The forecasted intensity of the storm	0	0	0	0	0
b. Concern that your home would be severely damaged or destroyed by the hurricane	Ο	0	0	0	0
c. Damage from floods or landslides	0	0	0	0	0
d. Protecting your home from storm damage	0	0	0	0	0
	l Did not influence	2 Slightly influenced	3 Moderately influenced	4 Influenced a great deal	5 Influenced a very great deal
e. Protecting your home from looters	0	0	0	0	0
f. Your home/neighborhood being isolated by road	Ο	0	0	0	0

	l Did not influence	2 Slightly influenced	3 Moderately influenced	4 Influenced a great deal	Influenced a very great deal
g. Lost income from your job or losing your job	0	0	0	0	0

Q20. Whether or not you evacuated, at the moment you decided on evacuating (or not), how likely did you think each of the following impacts were? This question uses a response scale of 1 to 5, where 1 signifies "Not at all likely" and 5 signifies "Extremely likely". (Select one response for each item)

Interviewer – Read each impact, Repeat scale as necessary

	1 Not at all likely	2 Somewhat likely	3 Moderately likely	4 Very likely	5 Extremely likely
a. Hurricane would be a Category 3 or above	0	0	0	0	0
b. Eye of hurricane would pass over island	0	0	0	0	0
c. Home would be flooded	0	0	0	0	0
d. Home would be impacted by landslides	0	0	0	0	0
e. Home would be damaged by wind	0	0	0	0	0
	1 Not at all likely	2 Somewhat likely	3 Moderately likely	4 Very likely	5 Extremely likely
f. Myself or household members would be injured or killed	0	0	0	0	0
g. Pets or farm animals would be injured or killed	0	0	0	0	0
h. Utility services at home would be disrupted	0	0	0	0	0

	I	2	3		5
	Not at all likely	Somewhat likely	Moderately likely	4 Very likely	Extremely likely
i. Myself or household members would be prevented from working due to hurricane damage/impacts	0	0	0	0	0
Q21. Did you or anyor Maria? (S <i>elect only o</i> Interviewer – Read lis	ne)		cuate in adv	ance of Hurri	icane
O Yes, all of us.					
O Yes, I evacuated, bu	t some in m	y household	did not.		
O Yes, others from my					
O No, no one from my	household e	evacuated.			
Q22. Did you or other recommendations? (Interviewer – Read list) O Yes, we complied with area or home O No, we decided on a evacuation instruction.	(Select only of t. Ith evacuation	one) on instruction vacuate with	is or recomm out being av	nendations f	or our
Q23. How long was it actually evacuated? Interviewer – Read lis	(Select only	· .	ded to evacu	ate and whe	en you
O Less than 5 hours					
O 6-12 hours					
O 13-24 hours					
O 25-48 hours					
O More than 2 days					
O I don't know					

Q24. After deciding to evacuate, did you or others evacuating with you do any of the following before leaving? (Select all that apply) Interviewer – Read list. "Did you"
☐ Travel home from somewhere (work, etc.)
☐ Travel elsewhere from home (to get gas, medicines, food/water, etc.)
Pack items to take or load vehicle
☐ Attend to pets or farm animals
Protect home/property from hurricane (boarding windows, shutting off utilities, etc.)
☐ Gather people evacuating with you
☐ Communicate plans to other friends or family
☐ I did not do anything, I left immediately
☐ I don't know
Q25. On which of the following dates did you or others evacuate from Hurricane Maria? If there were separate evacuation times, please select the time closest to the hurricane's landfall. (Select only one) Interviewer – Read list. "Did you evacuate"
O Before or on Monday September 18 (2 days before)
O Tuesday September 19 (day before)
O Wednesday September 20 (day of hurricane)
O Thursday September 21 (day after)
O on or after Friday September 22 (2 days after)
O I don't know
Q26. Where did you evacuate to, and stay, during Hurricane Maria? (Select only one) Interviewer – Read list.
O Home of friend, relative, or neighbor
O Hotel, motel, or rental property
O Emergency shelter location (public or private)
O I don't know

Part 6: Impacts & Health Related Questions

than 50% destroyed

We would like to learn about how you and your household were impacted by the hurricane, including: damage to your home, deaths, injuries, and healthcare needs.

Q27. Whether or not you medical assistance in or assistance by medical stone) Interviewer – Read list.	der to evacuate	from Hurricane Maria	(such as physical
Yes they did, and got asYes they did, but did noNo, no one needed assi	t get assistance		
Q28. How was your hous following conditions app Interviewer – Read list.	•		
	Yes	No	I don't know
a. My home was not damaged	0	0	0
b. Rain or flood waters entered home	0	0	0
c. Landslide on property or that impacted home	0	0	0
d. Loss of any utilities such as power, water, or telecommunications	0	0	0
e. Damage to outside of building (windows, doors, roof, etc.)	0	0	0
f. Considerable damage to roof; more	0	\circ	0

	Yes	No	I don't know
g. Collapse of house/home, or completely destroyed	0	0	0
Q29. Please indicate the r direct or indirect impacts insert numbers in all cate Interviewer – Read list.	from Hurricane	e Maria in the following	
a. wind-borne debris, flo	odwater, or lar	ndslides	0
b. failure of buildings suc	ch as broken w	indows or roof collaps	se 0
c. loss of power, water, tr	ansportation c	or other utilities	0
d. lack of medical care of	or necessary m	edication	0
e. activities related to cle	ean-up or hurri	cane recovery	0
f. other causes			0
Total			0
Q30. Please indicate the r sickened because of direct following categories. If so here as well. (<i>Please inse</i> If someone was injured in category. Interviewer – Read list.	ct or indirect in meone was inji rt numbers in c	npacts from Hurricane ured and then died, pl all categories, even if "	e Maria in the ease include them 0")
0	a. wind-borne	e debris, floodwater, o	r landslides
0 b. failure of buildings suc] ch as broken w	indows or roof collaps	se
0	c. loss of pow	er, water, transportation	on or other utilities
0	d. lack of med	dical care or necessar	y medication
0	e. activities re	lated to clean-up or h	nurricane recovery

☐ Clinic or doctor's office closed
☐ Dialysis center closed
☐ Pharmacy closed or out of medicines
☐ Lack of ability to pay for services
☐ No one needed healthcare
Part 7 - Social and Demographic Questions
Part 7: Social and Demographic Questions
These questions will provide us with information about you and your household and will help us to better understand how different types of people respond to hurricanes.
Q34. Which category best describes your sex? (Select only one) You may skip this question if you prefer not to answer. Interviewer – Read list.
O Female
O Male
Q35. Which of the following Census categories best describes your ethnicity? The U.S. Census Bureau defines "Hispanic or Latino" as an ethnic, rather than racial, category. (Select only one) Interviewer – Read list.
O Hispanic or Latino
O Not Hispanic or Latino
Q36. Please tell us which of the following Census categories best describes your race? The U.S. Census Bureau does not consider "Hispanic or Latino" to be a racial category, because people who identify as Hispanic, Latino, or Spanish may be of any race. (Select one or more) Interviewer – Read list.
☐ Black or African American ☐ White

American Indian or Alaska Native
☐ Asian
☐ Native Hawaiian or other Pacific Islander
Q37. How old were you in 2017, just before Hurricane Maria? (Select only one) Interviewer – Read list.
O 18-29 years old
O 30-39 years old
O 40-49 years old
O 50-59 years old
O 60-69 years old
O 70 or older
Q38. What was your highest level of education completed in 2017, just before Hurricane Maria? (Select only one) Interviewer – Read list.
O No schooling
O Some schooling, but no high school diploma
O High school diploma or equivalent
O Some college, but no degree
O Associate degree or Bachelor degree
O Graduate degree (or professional degree beyond Bachelor's)
Q39. Which of the following categories best describes your employment status in 2017, just before Hurricane Maria? (Select only one) Interviewer – Read list.
O Employed full-time (working 37.5 or more hours per week)
O Employed part-time (working fewer than 37.5 hours per week)
O Retired
O Disabled or not able to work
O Not employed or other

Q40. Please tell us how many individuals in the following categories, <u>including</u> <u>yourself</u>, lived in your household in 2017, just before Hurricane Maria. (*Please insert*

numbers in all categories, even if "0".) Interviewer – Read list.	
a. Infants and children 0 - 12 years old	0
b. Children and teens 13 - 17 years old	0
c. Adults 18 - 64 years old	0
d. Adults 65 and older	0
Total	0
Q41. Please provide an estimate for what you expected your total househ annual income for 2017 would be, just before Hurricane Maria. Please incl sources, including yourself. (Select only one) Interviewer – Read list.	
O Less than \$5,000	
O \$5,000 to \$9,999	
O \$10,000 to \$19,999	
O \$20,000 to \$29,999	
O \$30,000 to \$39,999	
O \$40,000 to \$49,999	
O \$50,000 to \$59,999	
O \$60,000 or more	
Part 8 - Closing	

Part 8: Closing

Thank you so much for taking the time to complete this survey. Your responses will assist us in providing recommendations that can help reduce future hurricane risks.

Q42. Do you have any comments or questions about the survey? Also, please let us know if you would be interested in participating in a longer interview exploring similar issues.



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 00693-0078. Without this approval, we could not conduct this survey. Public reporting for this information collection is estimated to be approximately 45 minutes in total, 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 National Institute of Standards and Technology at: 100 Bureau Drive, Gaithersburg, Maryland 20899, Attn: Katherine Johnson, Social Scientist and National Construction Safety Team Member, NIST Engineering Laboratory; or contact at katherine.johnson@nist.gov.

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