NIST Hurricane Maria Investigation Emergency Communications Household Survey

Part 1 - Intro ONLINE

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.

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?

following:
☐ I consent ☐ I do not consent
Part 2: Screening Questions
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 No
Were you involved in household preparations for Hurricane Maria? O Yes No
Lastly, do you still live at the same location as before Hurricane Maria? O Yes 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 & F	Previous Experi	ence Questions	
Part 3: Background & F	<u>Previous Experi</u>	ence Questions	
We would like to learn al hazards before Hurrican	, ,		s and other natural
Q6. Before Hurricanes Irr experienced? (Select on		ow many hurricanes h	nad you
 None; Irma and Maria v 1-2 3-4 5 or more I don't know 	vere the first hur	ricanes I experienced	
Q7. Before Hurricanes Irn hurricane? Evacuation is place, including a public	defined as leav	ring your home or loc	
O None; I never evacuate O 1-2 O 3-4 O 5 or more O I don't know	d before Hurrica	nes Irma and Maria	
Q8. Before Hurricanes Irn following from a hurricar		,	•
	Yes	No	I don't know
a. Damage to my home	0	0	0

	Yes	No	I don't know
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 Irr (Select only one)	ma and Maria, hov	v long had you lived	d in your home?
O Less than 1 year			
O 1-4 years			
O 5-9 years			
O 10 or more years			
O I don't know			
Q10. Before Hurricanes Ir yourself or others)? (Sel		s your home owned	d or rented (by
O Owned			
O Rented			
O I don't know			
Q11. Before Hurricanes Irr prepare for a hurricane?			•
	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	0	0	\circ

other supplies

	Yes	No	I don't know
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)	Ο	Ο	Ο
Q12. Before Hurricanes Into stay in during a hurrical Very safe Somewhat safe Somewhat unsafe Very unsafe I don't know Part 4 - Communication	ane? (Select only	•	your nome would be
<u>Part 4: Communicatio</u>	n Questions		
We would like to learn all received before Hurrical kinds of information.	,		o ,
Q13. In the days before Finformation from the follow			
	Yes	No	I don't know
a. National Hurricane Center or National Weather Service	0	0	0

	Yes	No	I don't know
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	Ο
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)

	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

	Yes	No	I don't know
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)

	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
e. Puerto Rico Emergency Management Agency or local emergency manager	0	0	0	0	0
f. Mayor (of your municipality)	0	0	0	0	0

	Not at all trustworthy	Slightly trustworthy	Moderately useful	Very trustworthy	Extremely trustworthy
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
i. Face-to-face / in- person	0	0	0

Q17. Leading up to Hurricane Maria's landfall, do you recall needing more information about any of the following topics? (Select one response for each item)

	Yes	No	I don't know
a. Hurricane characteristics (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

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)

	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	Ο	0	0	0	0
h. The expense of evacuation	0	0	0	0	0
i. Traffic accidents or					

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)

	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	0	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	0	0	0	0	0
g. Lost income from your job or losing your job	0	0	0	0	0
Q20. Whether or not y (or not), how likely did uses a response scale Extremely likely". (<i>Sele</i>	d you think e e of 1 to 5, wh ect one resp	each of the fo here 1 signific onse for eac	ollowing imposes "Not at all sh item)	acts were? T	his question signifies 5
	Not at all likely	Somewhat likely	Moderately likely	4 Very likely	Extremely likely

a. Hurricane would bea Category 3 or above

	1 Not at all likely	2 Somewhat likely	3 Moderately likely	4 Very likely	5 Extremely likely
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
	l 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. 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? (Select only o	. '	usehold evad	cuate in advo	ance of Hurri	cane
O Yes, all of us.					
O Yes, I evacuated, bu	t some in m	y household	did not.		
O Yes, others from my	household (evacuated, b	ut I did not.		
O No, no one from my	household e	evacuated.			

Q22. Did you or others evacuate due to official evacuation instructions or recommendations? (Select only one)
O Yes, we complied with evacuation instructions or recommendations for our area or home
O No, we decided on our own to evacuate without being aware of any specific evacuation instructions or recommendations
Q23. How long was it between when you decided to evacuate and when you actually evacuated? (Select only one)
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) 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) O Before or on Monday September 18 (2 days before) O Tuesday September 19 (day before)

O Wednesday September	20 (day of hurri	cane)	
O Thursday September 21	(day after)		
On or after Friday Septe	ember 22 (2 days	s after)	
O I don't know			
Q26. Where did you evad	cuate to, and stay	y, during Hurricane N	Iaria? (Select only
O Home of friend, relative,	or neighbor		
O Hotel, motel, or rental pr	roperty		
O Emergency shelter loca	tion (public or pr	ivate)	
O I don't know			
Part 6 - Impacts & Hea	Ith Pelated Oue	etione	
Ture o impueto a rica	m Kolatoa Que		
Part 6: Impacts & Healt	th Related Ques	tions	
We would like to learn ab hurricane, including: dan needs.	•	•	•
Q27. Whether or not you medical assistance in or assistance by medical stone)	der to evacuate	from Hurricane Mario	a (such as physical
O Yes they did, and got as	ssistance		
O Yes they did, but did no			
O No, no one needed assi	· ·		
Q28. How was your house following conditions appl			
	Yes	No	I don't know
a. My home was not damaged	0	0	0

	Yes	No	I don't know
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 than 50% destroyed	0	0	0
g. Collapse of house/home, or completely destroyed	Ο	0	0
Q29. Please indicate the direct or indirect impacts insert numbers in all cate	s from Hurricane	Maria in the following	
a. wind-borne debris, flo	oodwater, or lan	dslides	0
b. failure of buildings such as broken windows or roof collapse			
c. loss of power, water, transportation or other utilities			
d. lack of medical care or necessary medication			
e. activities related to clean-up or hurricane recovery			
f. other causes			
Total			

Q30. Please indicate the number of people in your household who were <u>injured or sickened</u> because of direct or indirect impacts from Hurricane Maria in the following categories. If someone was injured and then died, please include them here as well. (*Please insert numbers in all categories, even if "0"*) If someone was injured in more than one category, please include them in each category.

0 a. wind-borne debris, floodwater, or landslides				
0				
b. failure of buildings such as broken windows or roof collapse				
c. loss of power, water, transportation or other utilities				
d. lack of medical care or necessary medication				
e. activities related to clean-up or hurricane recovery				
0 f. other causes				
Q31. Which of the following items did you and household members need within 72 hours of Hurricane Maria, but did not have? (Select all that apply)				
☐ Safe drinking water and / or food				
Utilities such as water, power, gas or electric				
Phone or Internet connection				
☐ Medication; medical supplies or equipment (oxygen, wheelchair, etc.)				
Cash; means to purchase needed items				
Critical documents for identity, banking, insurance, etc.				
Emergency power source (generator, etc.)				
Gasoline (for vehicles or generator)				
□ Ice				
☐ We had all the supplies and services we needed				
Q32. Did you continue to live in your home after Hurricane Maria hit Puerto Rico? (Select only one)				
O Yes, my home sustained no, or minimal, damage.				
O Yes, we lived there despite damage or loss of utilities.				
O No, the house was destroyed or in a non-livable state, and we had to relocate due to damage or lack of utility service				
O No, the house was potentially livable, but we chose to relocate due to damage or for repairs to take place.				

household have difficulty accessing healthcare services for any of the following reasons? (Select all that apply)
☐ Transportation: roads closed, lack of public transportation; no ambulances
Communication: phone or 911 services unavailable
☐ Hospital closed
☐ Hospital not accepting patients or key services not available (x-rays, etc.)
☐ 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.
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)
O Hispanic or Latino
O Not Hispanic or Latino

Q33. Within the first two weeks after Hurricane Maria, did you or anyone in your

	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)
	Black or African American White American Indian or Alaska Native Asian Native Hawaiian or other Pacific Islander
CCCC	Q37. How old were you in 2017, just before Hurricane Maria? (Select only one) 18-29 years old 30-39 years old 40-49 years old 50-59 years old 60-69 years old 70 or older
	Q38. What was your highest level of education completed in 2017, just before Hurricane Maria? (Select only one)
CCCC	No schooling Some schooling, but no high school diploma High school diploma or equivalent Some college, but no degree Associate degree or Bachelor degree 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)
C	Employed full-time (working 37.5 or more hours per week) Employed part-time (working fewer than 37.5 hours per week) Retired Disabled or not able to work

O Not employed or other	
Q40. Please tell us how many individuals in the following categorie <u>yourself</u> , lived in your household in 2017, just before Hurricane Maric numbers in all categories, even if "0".)	,
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 hannual income for 2017 would be, just before Hurricane Maria. Plea sources, including yourself. (Select only one)	
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: Closina	

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.

us know if you would be interested in participating in a longer interview exploring similar issues.	
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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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