

O‘AHU FLOOD RISK

UNDERSTANDING COMMUNITY EXPERIENCE AND PERCEPTION

Hawai‘i Floodplain Management Conference
November 8, 2024

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This project was funded by the Federal Emergency
Management Agency’s (FEMA) Cooperating Technical
Partnership Program

Why this Project?

- Changing climate risks
- Undetermined risk across most of the county
- Challenges with effective community outreach and education



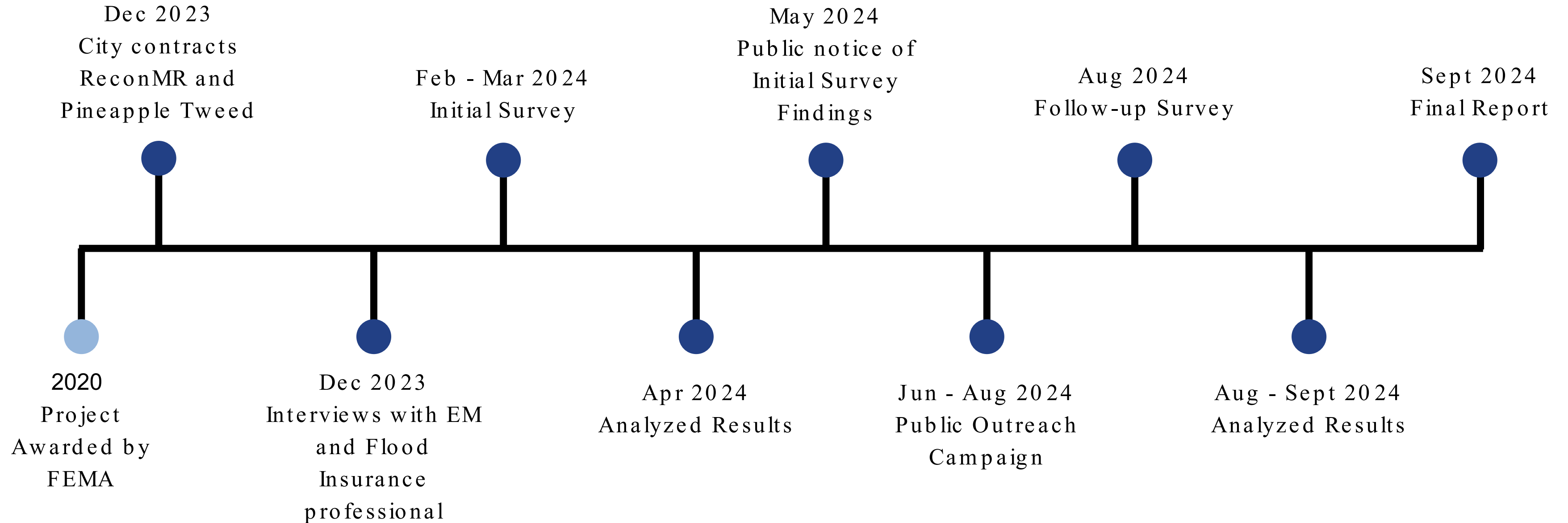
Project Objectives

Better understand resident's:

- Awareness of flood risk
- Knowledge of flood insurance
- Experience with flooding



Project Timeline



Questionnaire Design: Study 1

Survey covered 5 main topics

- Personal experience with flooding
- Flood awareness and knowledge
- Flood prevention and recovery
- Flood insurance adoption and barriers
- Information sources and their trustworthiness

Floods can occur suddenly year-round. The City and County of Honolulu wants to make sure that folks don't lose everything in the event of floods or storms. You can help make your community safer and more resilient by taking a 15 minute survey that will guide the City in promoting flood risk reduction measures and flood insurance information for residents. We value your experience and knowledge about flooding and property damage and appreciate your assistance in helping O`ahu become better prepared for whatever comes our way.



Flood Awareness and Knowledge

- Perceived flood risks
- Knowledge of flood zones
- Attitudes toward climate change
- Availability and types of FEMA assistance
- Availability and types of other assistance
- What is/is not covered by insurance

Each of the following statements is true. Please read them and tell us your level of awareness for each one. Please be honest.

	I never thought about it	I had no idea	I thought so but wasn't sure	I was aware of this
FEMA Individual Assistance (IA) is only available after federally declared disasters and provides money for immediate basic needs and safety. It doesn't rebuild your house.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FEMA loans to rebuild your house must be paid back.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your property could be at risk even if it is not mapped in a FEMA flood risk area.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State and local governments don't directly provide financial assistance to property owners affected by floods.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Condominium flood insurance policies only cover the building, not the contents of individual units. That requires a separate policy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	I never thought about it	I had no idea	I thought so but wasn't sure	I was aware of this
Standard homeowners and renters insurance do not cover flood damage.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sump pump discharge and sewer backup are not typically covered by flood insurance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hurricane insurance only covers water damage from wind-blown rain and not storm surge damage.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood damage to your car is covered only by comprehensive auto insurance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Survey Details

Flood insurance adoption and barriers

Many people on the island don't have flood insurance, for a number of reasons. Please tell us why your household doesn't have flood insurance. (Select all that apply)

Too expensive

I don't need it, my property is low risk

I don't need it, I'm a renter

I don't trust insurance companies

I don't want to hassle with insurance claims

If a flood happens, I will figure out a way to repair my home on my own

I don't know much about it, or have never heard about flood insurance

My property is not valuable enough to insure

I don't think a flood insurance company would cover my property

Something else (Please tell us)

Don't know

Prefer not to answer



Unique Demographics

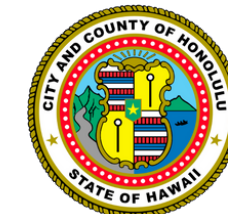
- Ownership*
- Mortgage status
- Multi -generational housing
- Remodel history

Which of the following apply to your home? (Select all that apply)

- The home has been owned by my family for multiple generations
- There are multiple generations of my family currently living on the property
- Additions or major modifications have been made to the property over the years
- The mortgage on the home is paid off
- None of these apply
- Prefer not to answer

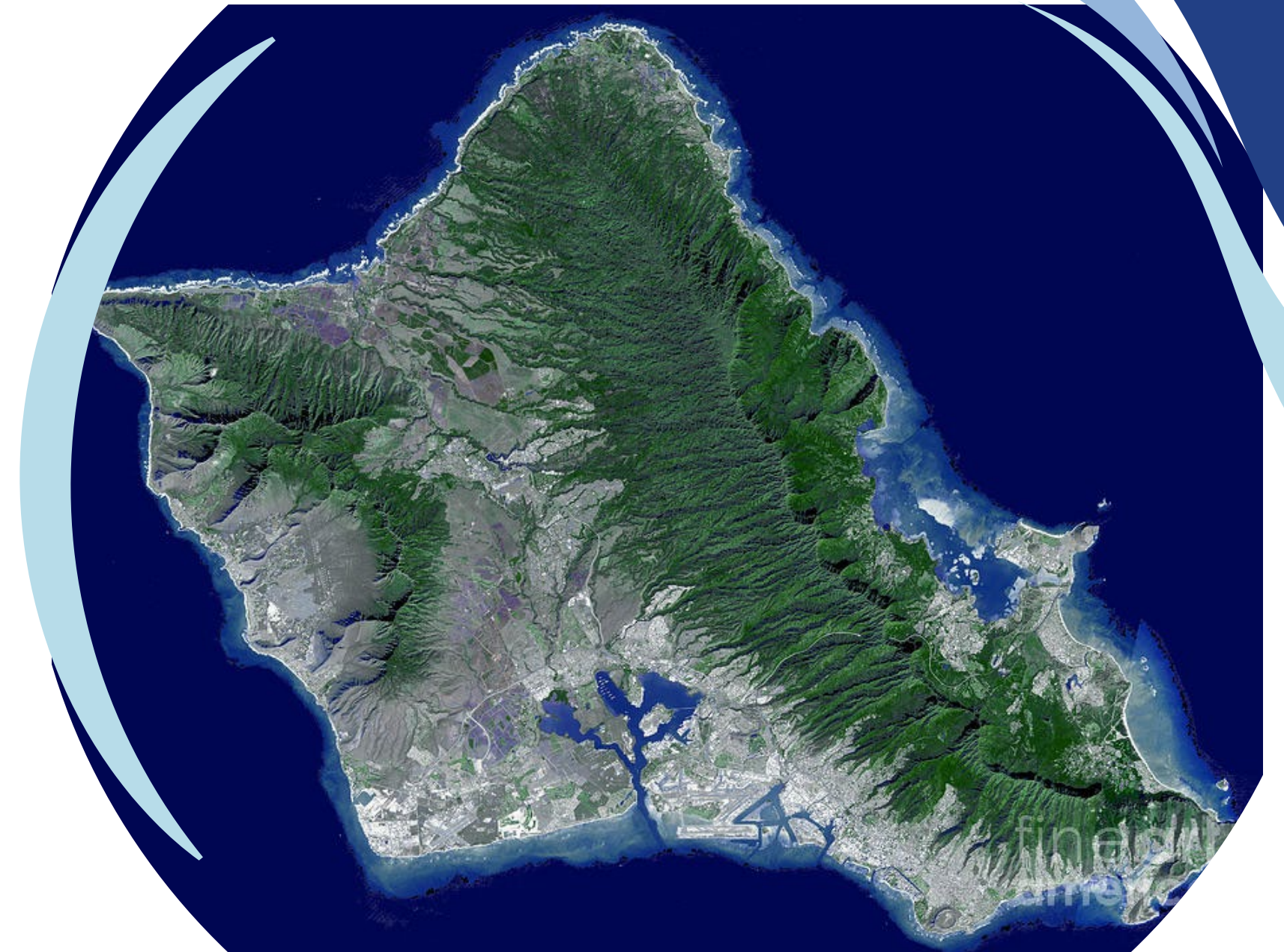
Do you own or rent your residence?

- Own
- Rent
- Living with family/friends
- Currently without housing
- Other (Please specify)
- Prefer not to say



Sample Design: Study 1

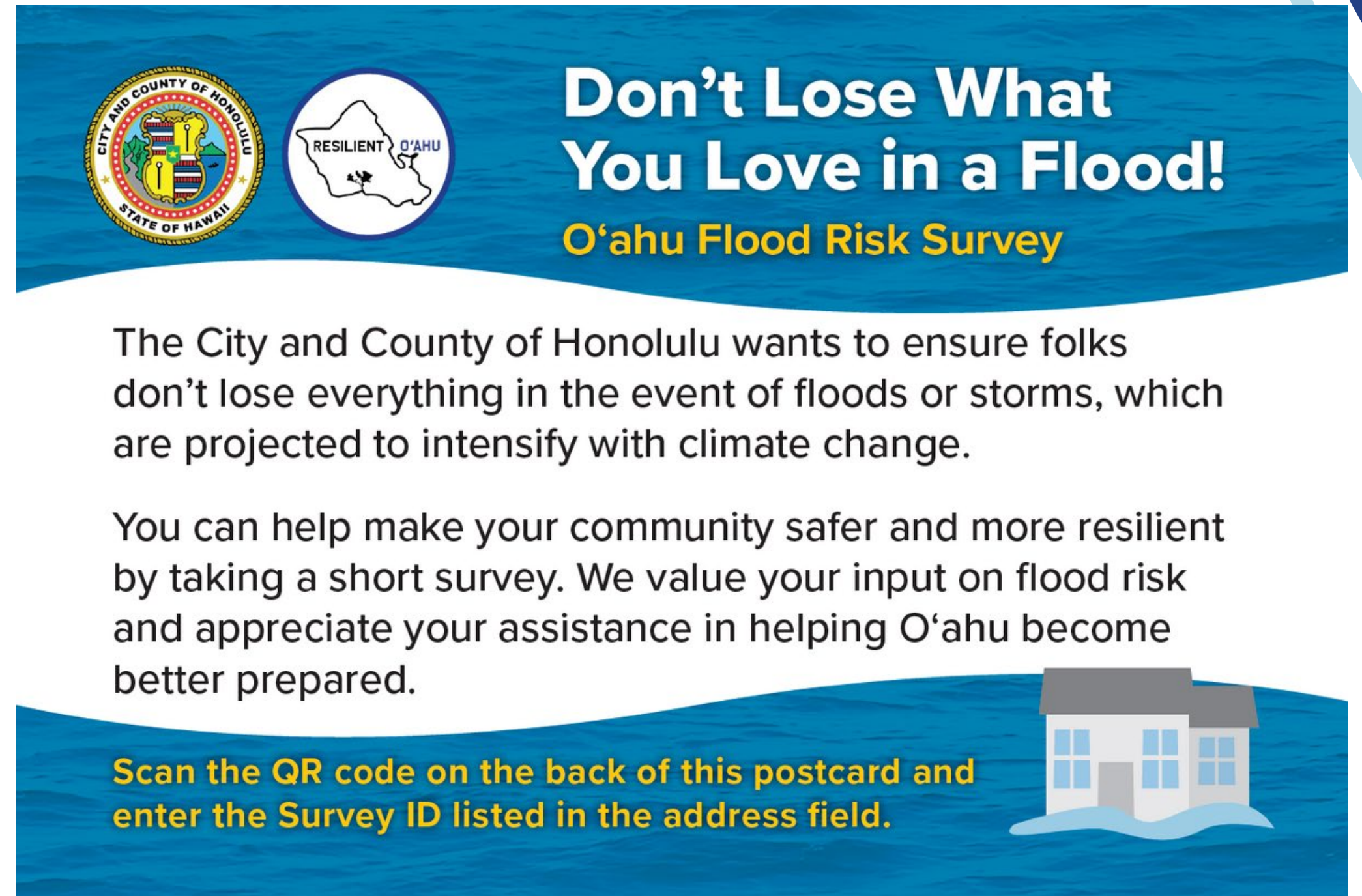
- 25,000 addresses were randomly sampled using Address -Based Sample (ABS)
 - Email, cell phone, landline appended to addresses where available
 - Flood Zone was also appended to each record



Survey Outreach: Study 1

- Phase I: All 25,000 records were sent a post-card invitation
 - MMS, email, and phone follow-up to non-responders
- Phase II: input from multi-family building property managers
- Phase III: open to general public

1,046 respondents (4% completion rate)




Don't Lose What You Love in a Flood!
O'ahu Flood Risk Survey

The City and County of Honolulu wants to ensure folks don't lose everything in the event of floods or storms, which are projected to intensify with climate change.

You can help make your community safer and more resilient by taking a short survey. We value your input on flood risk and appreciate your assistance in helping O'ahu become better prepared.

Scan the QR code on the back of this postcard and enter the Survey ID listed in the address field.



Key Findings



One-third of residents have experienced flooding, and 69% of those impacted were uninsured.



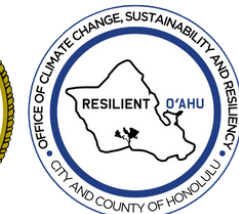
21% of residents have flood insurance.



Top 2 barriers to purchasing insurance were perception of low risk and policy cost.

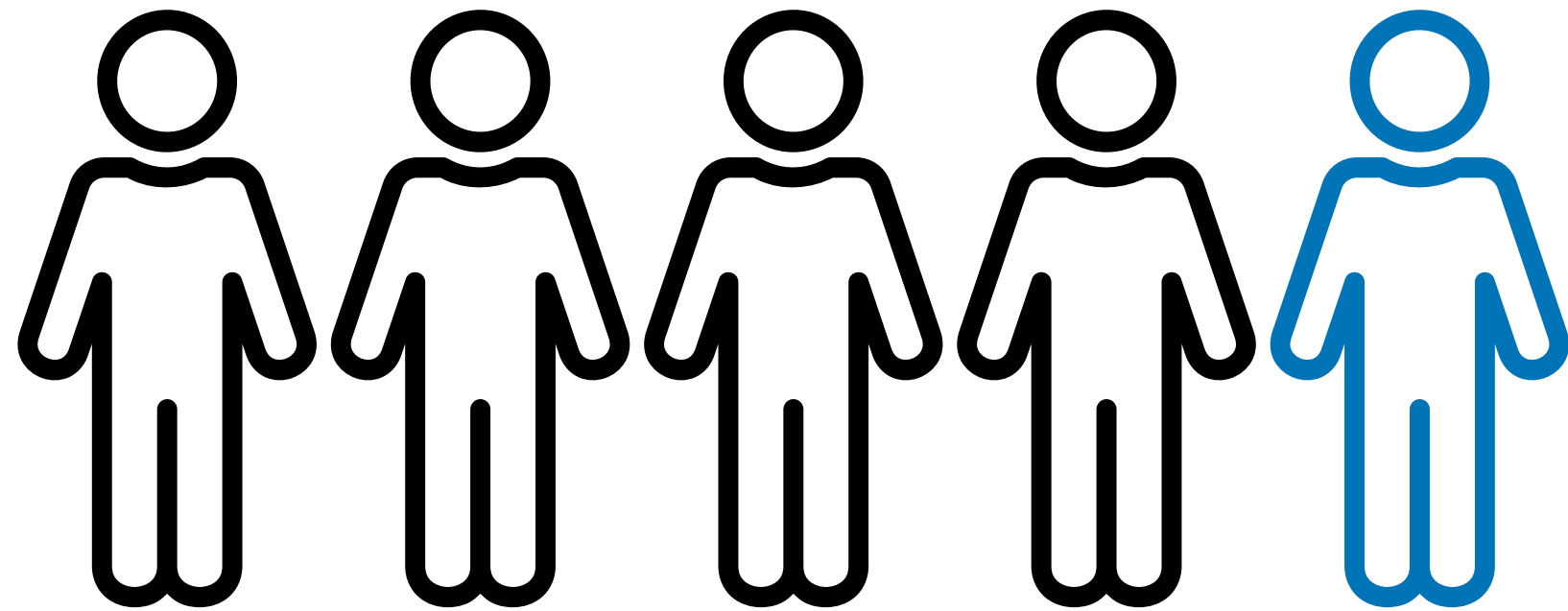


View all the results at resilientoahu.org/getfloodready



Need for More Education and Awareness

Only 1 in 5 Residents were aware that....



- Standard homeowners' and renters' insurance does not cover flood damage
- Hurricane insurance does not cover standing water caused by storm surge
- Properties not mapped in FEMA flood risk areas could still be at risk to flooding



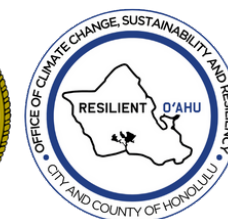
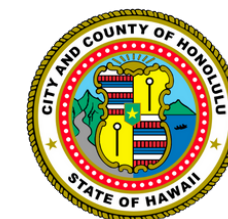
Public Outreach

- Developed using findings from the initial survey design
- Aimed at reaching multiple demographics
- Methods included:
 - Follow-up postcard to targeted households
 - TV interviews with City Staff
 - Internet advertisements
 - Social media campaign
 - Radio public service announcements in multiple languages
 - Emails
 - Project website
 - Direct messaging to City and State Reps
 - Direct messaging to churches and Civic clubs across the island



Outreach Campaign Objectives

- Increasing awareness on flood risk
- Providing actions residents could take to reduce flood risk
- Providing information on flood insurance



Example Outreach Materials

CITY AND COUNTY CLIMATE CHANGE SCRIPT

Date: June 23, 2024

According to a recent survey by the Honolulu Mayor's Office of Climate Change, Sustainability and Resiliency, about one-third of Oahu respondents have personally experienced a flood or know of someone who has. However, most people are surprised to learn that homeowner's and renter's insurance do not cover flood damages. Storms that contribute to dangerous and damaging floods are expected to increase. The more we prepare now, the more resilient we will be. Learn more about reducing your flood risk and minimizing damage costs at resilientoahu.org/get-flood-ready.

ILOKANO VERSION

Ti kaudianan a survey manipud ti Opisina ti Climate Change, Sustainability, ken Resiliency ni Apo Mayor ti Honolulu, agarup apagkatlo kadagiti nakipartisipar ditoy Oahu iti personal a nagsagaba iti layus WENNO addaan am-ammo a nakapadasen. Nupay kasta, kaadduan na iti nasurpresa nga ti "homeowner's" wenno "renter's" nga insurance ket saan na a makaberaan dagiti madaddadael a gapuanan iti layus. Manamnama nga umadu dagiti bagyo a mangdadael ken rumsuaan ti layus. No agsagana tayo itan, naan-andur ti pannakalasad tayo. Adalen dagiti wagas a pannakaipababa ti peggad ken gastos kadagiti dadael ti pannakalayas manipud iti resilientoahu.org/get-flood-ready.

Don't Lose What You Love in a Flood!

Protect Your Home and Belongings



According to a City and County of Honolulu survey (March 2024), one in three residents have direct or indirect experience with flooding. Everyone lives in a flood zone, and while not everyone shares the same level of risk, anywhere it rains it can flood. Climate change is anticipated to increase storms that contribute to flooding, so it is important to make sure you have the right protection against flooding.

There are simple actions you can take to reduce the risk or impacts of flooding. Knowing your flood risk, taking precautionary measures at home, and having the right insurance coverage before a flood are the best ways to protect your 'ohana and the things you love. This applies if you're a homeowner or a renter!

Preparing for Floods

Know your flood risk. Are there streams, roads, hillsides, or other areas around your home that have flooded or caused flooding in the past? Have these areas changed in ways that could make them or your property at risk for flooding now?

Make sure you have gutters and downspouts installed on your roof and keep them clear of debris to maintain proper drainage.

Raise electrical appliances, machinery and water heaters on platforms or to higher floors in the building, if possible.

Install Check Valves to prevent flood water from backing up into your drains.

Photo document your possessions and keep an updated inventory for insurance claims.

Keep essential documents in a waterproof container and consider creating password-protected digital copies.

Create an emergency plan and kit, and have local emergency contacts handy.

Check your yard for low points and how it slopes. Work to direct water away from your home towards storm drains where possible.

Consider purchasing a flood insurance policy. Flood insurance fills the gap between homeowners insurance and hurricane insurance by protecting your home and belongings from physical damage caused by flooding.

Visit www.resilientoahu.org/GetFloodReady for more information and to learn about flood insurance.

Learn How to Protect Your Home at
ResilientOahu.org/Get-Flood-Ready

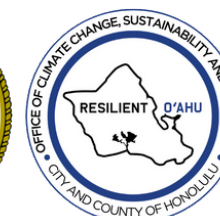
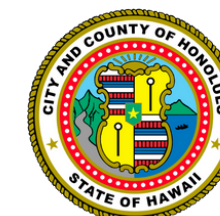
LEARN MORE

KNOW YOUR POLICY

Understanding your flood insurance policy is important so you know what to expect. Here are some general tips to help you know what's covered:

- READ CAREFULLY** – Take the time to read through your policy documents. Pay close attention to coverage limits, deductibles and exclusions. For more information or for questions, please contact your insurance agency.
- NOTE DEDUCTIBLES** – Know how much you will be responsible for paying out of pocket (deductibles) before your insurance coverage kicks in. Understanding your deductible and policy exclusions can help you budget for potential expenses in the event of a flood.
- ASK QUESTIONS** – If there's anything you don't understand in your policy, ask your insurance agent or provider for clarification. It's better to know upfront than to be caught off guard during a flood event.
- CATALOG CONTENTS** – If your policy includes contents, create a detailed inventory of what is covered before a flood occurs. At a minimum, the inventory should include photos; description of the item and where it's located on the property; records of when the item was purchased; the item's condition; model or serial numbers; a receipt, weblink or invoice for higher-value items.
- KNOW YOUR COVERAGE TYPES** – Familiarize yourself with the types of coverage included in your policy. Does it cover both building and contents or just your building? Building coverage protects the structure of your home, while contents coverage protects your belongings inside.
- WAITING PERIODS** – Some flood insurance policies have waiting periods before they take effect. Flooding is a hazard all year long on O'ahu, so make sure you know how long the waiting period is so you can plan accordingly. For example, National Flood Insurance Program policies take 30 days to go into effect. The earlier you get into the program the quicker you can protect the things you love.
- UNDERSTAND EXCLUSIONS** – Be aware of what is not covered by your policy. Common exclusions may include damage from mold, flooding from broken pipes, or damage to decks or landscaping. Understanding these exclusions can help you plan accordingly and consider additional coverage.
- KEEP YOUR POLICY DOCUMENT SAFE** – Store hard copies and digital copies of your policy documents in a safe and easily accessible place.
- REVIEW COVERAGE LIMITS** – Check the dollar limits of your coverage to ensure it will protect your property. Depending on your location and needs, you may want to consider additional coverage options, such as excess flood insurance or coverage for temporary living expenses.
- REVIEW ANNUALLY** – Flood risk and insurance policies can change over time, so it's important to review your policy annually to ensure it still meets your needs and reflects any changes to your property or circumstances.

Flooding is a hazard all year. Don't lose what you love in a flood! Find out about federal insurance at: www.floodsmart.gov/whats-covered and the simple things you can do to protect your home and belongings at: www8.honolulu.gov/swq/info-resources/residents/



Total Impact



3

TV Interviews

122,680 +

TV Interview Views

1,046

Initial Survey Respondents

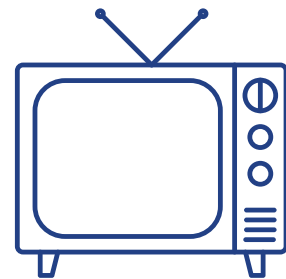


268

Follow-up Survey Respondents

Television Reach

2 million



+



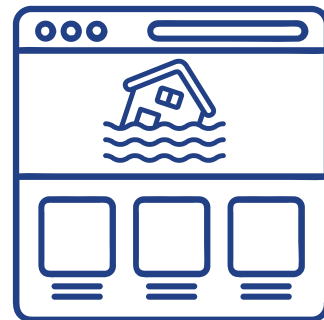
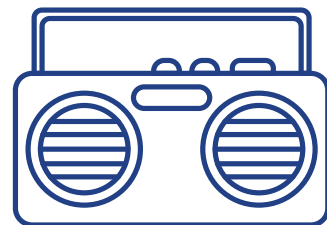
Internet Reach

2.1 million

+

Radio Reach

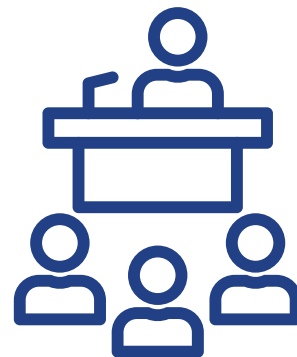
1.5 million



Get Flood Ready Website Views

4,300

+



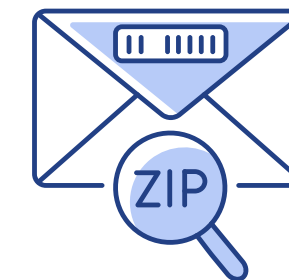
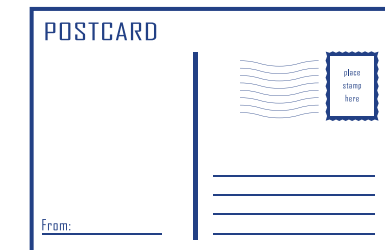
93

City and State Representatives Reached

Targeted Outreach

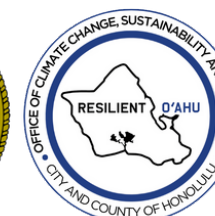
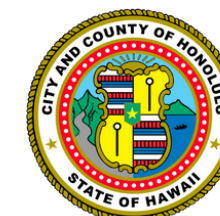
25,000

0



2

Zip Codes Targeted



Questionnaire: Study 2

Survey topics were

- Campaign awareness
- Campaign effectiveness
 - On attitudes
 - On behavior

Would you say that after seeing/hearing the message that you are more knowledgeable on how to prepare for flooding?

No, the campaign had no impact on my readiness

A little, the campaign gave me some ideas, but I have not acted on any of them

A fair amount, I started researching ways to be more flood-ready and am thinking about implementing some

Quite a bit, I have taken action to make my home more flood ready

After seeing/hearing the message, did you do any of the following? Select all that apply.

Went to the resilientoahu.org/getfloodready website

Searched other websites for information

Researched flood risk in my area

Shared the message with other people

Talked to others about flooding

Worked on my property to reduce flood risk

Worked on a friend, family member, or neighbor's property to reduce flood risk

Bought a flood insurance policy


Other (Please tell us)



Sample Plan: Study 2

- An additional 12,000 addresses were randomly sampled using Address -Based Sample (ABS)
 - Sampled records were screened to ensure email and/or cell phone numbers were available
 - Flood Zone was also appended to each record

All sampled households received an MMS text message, email, or both.



O'AHU FLOOD RISK FOLLOW-UP SURVEY

The City and County of **Honolulu** is conducting a follow-up survey to gather updated information on residents' flood risk awareness and preparedness as part of ongoing efforts to make sure that folks don't lose everything in the event of a flood or storm. This 10-minute survey is in follow-up to a similar survey from February/March 2024 — whether or not you took the previous survey, your input is crucial in helping the City track progress and identify new areas for improvement.

To take the survey, go to {LINK}

We value your opinion and appreciate your assistance in helping O'ahu become better prepared for whatever comes our way.

If you have questions about the survey, you can contact us at floodready@honolulu.gov

Best Regards,
The City and County of **Honolulu**



Key Findings

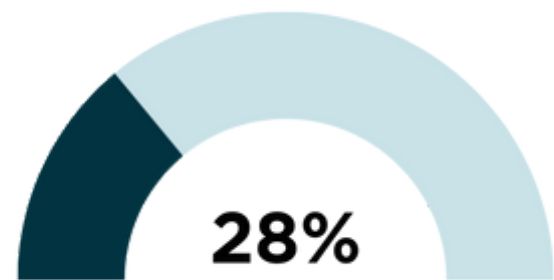
Respondents who had seen or heard outreach campaign efforts were asked:

Are you more knowledgeable about flood preparedness after receiving the message?

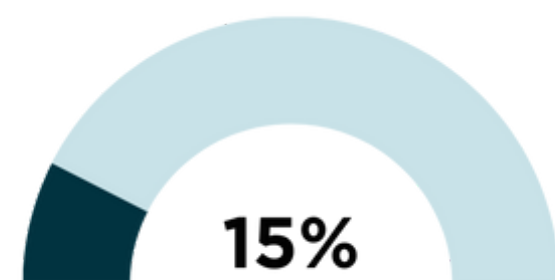
- *Most respondents (64%) said they felt at least a little more knowledgeable and the campaign gave them some ideas on improving their flood preparedness.*

Did you take any actions after seeing or hearing the message?

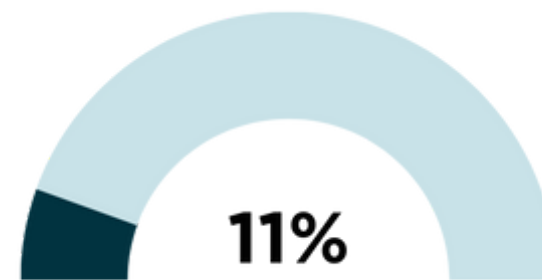
- The campaign led residents to educate themselves, share information, make plans, and implement property improvements.



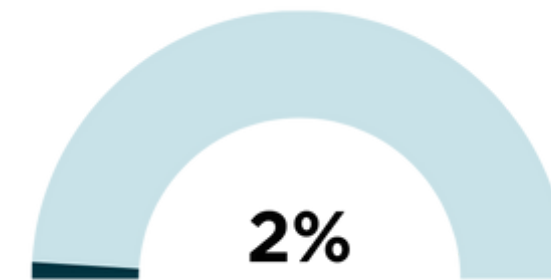
Researched how to protect their 'ohana



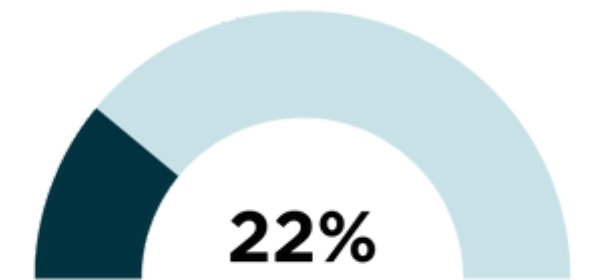
Talked to friends and family



Made property improvements



Bought flood insurance



Haven't taken any actions yet, but are planning to



Key Findings

All respondents, whether or not they had seen the outreach campaign, were asked about their perception of their property's flood risk.

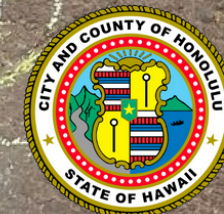
How much do you feel your home is at -risk from any of the following types of flooding?

- Those who saw outreach messaging were more likely to assess their property as being at medium to high risk of groundwater, urban, and stream flooding compared to those who did not.



Lessons Learned

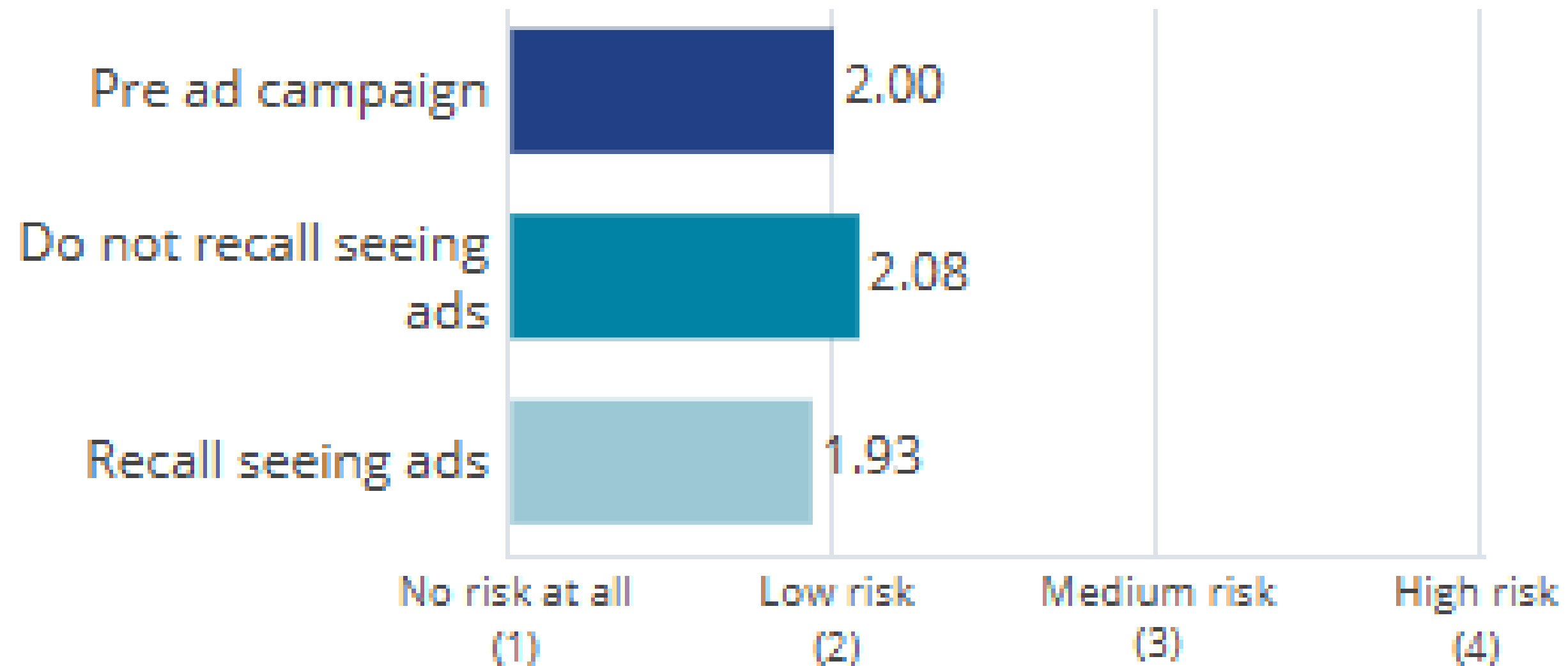
- Increasing public awareness is more difficult than it seems
- Cheap and easy advertising methods are not the most effective
- Keep spreading the message



Lessons Learned

The campaign did not have a measurable impact on attitudes or beliefs.

Calculated score measuring perceived risk of flooding.

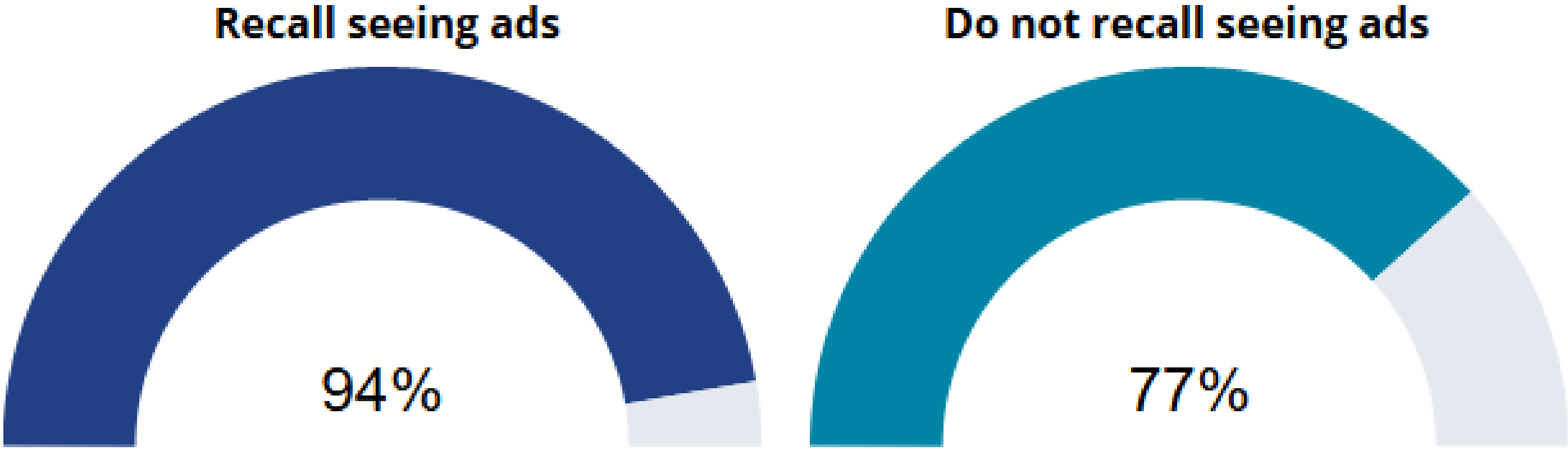


ANOVA P-value = 0.84



Lessons Learned

The campaign impacted respondents' taking action to protect their property.



Percentage of respondents who have or have a plan to take flood protection measures.

P-value=0.03



Lessons Learned

Additionally, respondents who recall seeing campaign ads have more confidence in being able to recover from flood damage.

52% of those who recall seeing the campaign ads have high confidence in flood damage recovery.

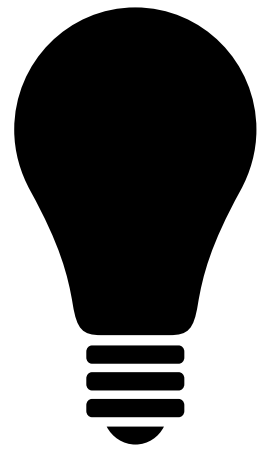


Only 27% of those who do not recall seeing the campaign ads have high confidence in flood damage recovery.



Lessons Learned

O'ahu resident behavioral changes



Unawareness

No recognition of the issue of growing flood risk on O'ahu



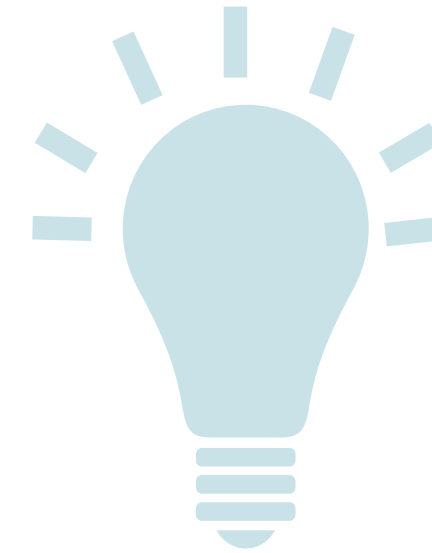
Initial Awareness

Acknowledging the issue but lacking a detailed understanding



Informed Awareness

Doing research, talking with others, a shift in attitude



Planning

Considering taking action based on new knowledge



Action

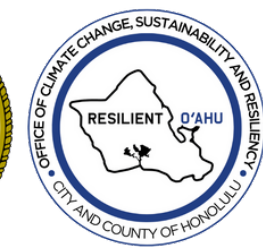
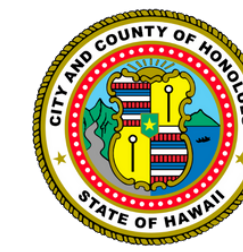
New behaviors, new projects, maintaining a new routine



Recommendations for Improvement

- Give more details than you think are needed
- Share information out in packages vs. piecemeal approach
- Provide more encouragement for taking follow-up action
- Provide incentives for increasing response rates
- **THINK AHEAD**





MAHALO!

QUESTIONS?

Contact us:

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sarah.harris@honolulu.gov