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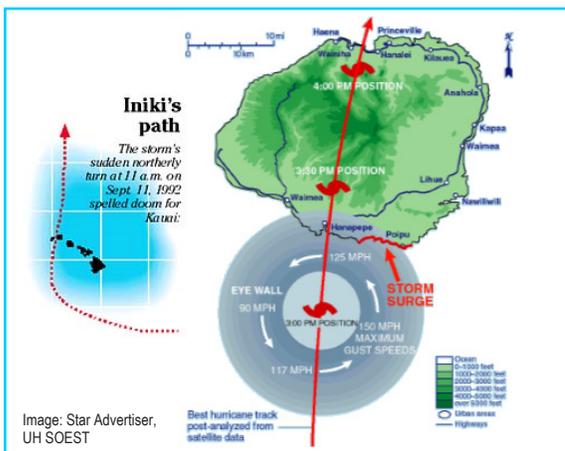
Wai Halana

Special Edition
Hawaii Flood News

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION



It's Not a Matter of *If*, But *When* ... Hurricane INIKI 25 Years Later



Hurricane Iniki

(/i:ˈni:ki:/ ee-**NEE**-kee; Hawaiian: *iniki* meaning "strong and piercing wind"). September 11, 1992, will be a date that many of us will remember forever when a small, but intense Category 4 hurricane that took an unexpected sharp right turn that struck Hawaii and devastated the island of Kauai leaving behind a trail of destruction. As Hurricane Iniki slammed into Kauai's southshore, uprooting trees, downing poles and tearing off roofs, many families huddled together praying for this storm to pass. \$2 billion dollars in losses for Kauai alone makes this the costliest hurricane to hit our State and took over a decade for us to recover. The Red Cross reported a total of 14,350

homes were damaged by Iniki, with nearly 1,500 homes completely destroyed. According to the National Weather Service, it was the 145 mph winds at landfall that tore through the island that caused the most destruction. Oahu experienced some major damage to properties from the heavy winds, but it was the flooding to the southwest coastline properties that proved to be the most costly. Though not directly in the path of the hurricane's eye, the Waiānae coastline property owners sustained the most damage from waves and storm surge flooding from the hurricane's outer band.

Prepare, Plan and Always Be Ready...

Hurricane season runs from June 1st to November 30th, and the Hawaii Emergency Management Agency recommends residents take the following actions to always be prepared for any possible hurricane, tropical cyclone or other severe events that could impact Hawaii:

- Prepare an Emergency Kit with a minimum of 14 days of food, water and other supplies.
- Talk with family members and develop a clear understanding what you will do if a hurricane or tropical storm threatens. Prepare an action plan

Hoping for the best ... Prepare for the worst

As we head into the home stretch of this calendar year, it also marks the end of the 2017 hurricane season. This year the Atlantic saw its busiest season since 2005 and also set a record for the most (Category 4) hurricanes to make landfall. In Hawaii, we were fortunate not to have been affected by any hurricanes in 2017. In fact, this year marks the 25th anniversary of Hurricane Iniki. This devastating Category 4 storm made a direct hit on the island of Kauai and caused approximately 2 billion dollars in damage.

Although hurricane season is officially over, our rainy season runs until April. It's important to remember that preparedness planning should be a year-round practice. To help convey this important message, the editorial staff of the Wai Halana has put together this "Special Edition" issue that includes facts, tips, and resources to help with your family disaster preparedness planning.

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that includes details such as whether your family plans to shelter in place or evacuate.

- Know if your home is in an inundation zone, flood zone, or susceptible to high winds and other hazards. Know if your home is retrofitted with hurricane resistant clips or straps.
- Stay tuned to local media and their websites/applications regarding weather updates.
- Sign up for local notification systems.
- Get to know your neighbors and community so you can help each other.
- Download the "Ready Hawaii" app from the iTunes or Google Play! store. This app can aid in your emergency planning and will list shelters if they are opened for evacuation.
- Walk your property and check for potential flood threats. Clear your gutters and other drainage systems. Remove and secure loose items. Keep your car gas tanks filled.
- Set aside an emergency supply of any needed medication and keep a copy of your prescriptions in case you run out of medication after a disaster.
- Secure your important documents in protective containers.
- Prepare your pets by checking or purchasing a carrier and other preparedness items. A pet carrier is necessary for your pet's safety if you plan to evacuate to a pet-friendly shelter.

That Was Then, This is Now...

Since that devastating day, 25 years ago, FEMA's flood insurance rate maps have been updated, building requirements have gotten stronger for sheltering in place, electric companies have made many improvements to protect the system's electrical grid, and emergency operation centers statewide are better equipped with public alert systems, current weather forecasting technology and numerous back up communication systems.

In Hawaii, with our abundance of sun, surf and perfect trade wind days, we can easily be lured in a false sense of calm conditions around us. However, for those of us who have weathered some devastating storms and counted our blessings from the numerous near misses we've encountered over the last few years, we know we can't afford to become complacent. After all, it's not *if*, it's *when*... And when the next disaster strikes our 'aina, will you be ready?



DLNR Participates in Hazard Preparedness Fairs



Hawaii residents seem to be more knowledgeable, prepared and ready to react. Each hurricane season, a series of Hazard Preparedness Fairs have been held at various locations across the state. These fairs have been well attended by property owners who want to be prepared when another disaster strikes.

Homeowners who attend these events are better informed on how to prepare a 14-day emergency kit, if they are located in a tsunami evacuation zone, where their nearest shelters are located, what is their level of flood risk for their property, and the importance of flood insurance.

The DLNR Engineering Division is the state coordinating agency for the National Flood Insurance Program in Hawaii and took part in a series of Hazard Preparedness Fairs this past summer:

- ◆ Maui County Disaster Preparedness Expo (June 3, 2017)
- ◆ Kahala Mall Emergency Preparedness Fair (June 24, 2017)
- ◆ Pearlridge Center Ready2React – Emergency Preparedness Event (July 29, 2017)
- ◆ 7th Annual Get Ready Ewa Beach Emergency Preparedness Fair (September 9, 2017)

Looking forward to seeing you next year as we prepare, plan, and educate the community about their flood risk. 

IN HAWAII

Hawaii emergency shelter locations are determined by each individual county emergency management /civil defense agencies and may be different facilities depending upon the type of event (i.e. flooding vs. hurricane). It is important for property owners to listen to the media for a list of shelters that are opening and which may be pet friendly.

Protect Your Home and Your Finances



Structural Preparedness



Financial Preparedness



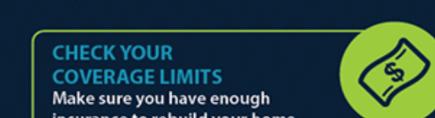
RE-ADHERE SHINGLES
A tube of roofing cement can help prevent \$1000s of water damage to your roof decking. (Cost: \$4 /25 ft. of shingles.)



REVIEW YOUR HOMEOWNERS/ RENTERS INSURANCE POLICY
Know what's covered—and what's not. Read your policy thoroughly and list questions to discuss with your Insurance Professional.



SECURE SOFFITS
Simple supplies from your local hardware store—polyurethane sealant and stainless steel screws—can secure soffits to the walls to prevent wind-driven rain from getting into your house. (Cost: \$6)



CHECK YOUR COVERAGE LIMITS
Make sure you have enough insurance to rebuild your home and replace all your belongings, as well as to pay for additional living expenses in case you cannot live in your home while damage is being repaired.



SEAL GAPS
A tube of caulk will seal gaps in outer walls to keep water out. Focus on openings for wires, cables, and pipes, and around electrical boxes and circuit breaker panels. (Cost: \$2/10oz. tube)



CONSIDER FLOOD INSURANCE
Hurricanes often bring flooding, which is not covered by homeowners or renters policies. A separate flood policy is available from the National Flood Insurance Program (www.floodsmart.gov), but there's a 30-day waiting period.



PROTECT WINDOWS AND DOORS
Install shutters for windows and doors to protect against flying debris and pressurization, or install permanent fasteners for pre-cut shutter panels so they can be put in place quickly. (Cost: \$9 - \$30/sq ft)



CHECK YOUR HURRICANE/ WINDSTORM DEDUCTIBLE
These deductibles are usually a percentage of your home's insured value. Find out how much the deductible would be for a wind/hurricane damage claim and consider putting aside the additional money you may need to meet it.



TRIM TREES
Inspect trees and shrubs. Prune away any branches that are near windows and outside walls—and remove all weak sections of trees that might easily break off and fall.



UPDATE YOUR HOME INVENTORY
A detailed, up-to-date home inventory can help you purchase the right coverage, speed up the claims process, and make it easier to apply for disaster aid.

Health Safety Following a Flood

Cleaning up after a flood can pose health risks. You and your family should wait to re-enter your home until professionals tell you it is safe, with no structural, electrical or other hazards.

Before you start cleanup activities, contact your insurance company and take pictures of the home and your belongings. Remember, drying your home and removing water-damaged items is your most important step for preventing mold damage.

If your house has been flooded and you were not able to dry your home (including furniture and other items) within 24 – 48 hours, you should assume you have mold growth. You may see or smell mold on clothing, drywall, furniture, cardboard boxes, or books, but it may also be hidden under or behind items like carpet, cushions, or walls.

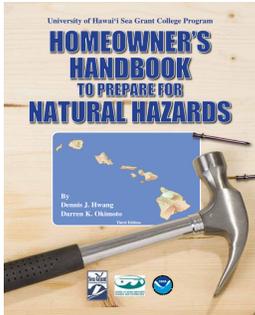
Exposure to mold can lead to asthma attacks, eye and skin irritation, and allergic reactions. It can lead to severe infections in people with weakened immune systems, so it is important to ensure the mold cleanup is complete before reoccupying your home.

Keep in mind that standard home owners insurance policies typically exclude damage caused by mold, fungi and bacteria, unless it results from a covered peril, such as a burst pipe.

For more information, download the [Homeowner's and Renter's Guide to Mold Cleanup After Disasters](#), created by the Centers for Disease Control and Prevention (CDC) and a coalition of federal agencies.



HOMEOWNER'S HANDBOOK to Prepare for Natural Hazards



The Homeowner's Handbook to Prepare for Natural Hazards, published by the University of Hawaii Sea Grant College Program, now in its third edition, provides useful tips regarding readiness for natural hazards that may affect Hawaii, including tsunami and hurricanes. The handbook lists local civil defense and emergency management agency information, as well as emergency shelter locations.

What's New?

- Lessons learned from Hurricane Iselle are included regarding emergency supplies, evacuation planning, and wind damage on roofs from less than hurricane strength winds.
- Meteorological information on Hurricane Ana is provided by the National Weather Service and has implications regarding the need for all islands to prepare.
- Appendix C - Storm Panel Screws - For an easy way to attach plywood or honeycomb panels to small windows.
- Appendix D - Asphalt Shingle Roofs and Ridge Vents - Methods following guidelines in the FEMA Home Builder's Guide are presented to make asphalt shingle roofs and ridge vents stronger.
- Appendix E - Solar Photovoltaic - Covers what the homeowner needs to know to ensure the sturdy attachment of solar photovoltaic cells to the house.
- Appendix F - Working with the Community - Once you are prepared, learn how you can help the community with the State and County Civil Defense and Emergency Management Agencies as well as the American Red Cross.

Download the latest edition of the Homeowners Handbook at:

http://seagrantsoest.hawaii.edu/sites/default/files/publications/webhomeownershandbooknatural_hazards_0.pdf

Look for a Fourth Edition coming in 2018 at a Hazard Preparedness Fair near you !!



Source: UH Sea Grant

Counties Offer Emergency Notification System to Islanders

In order to broadcast vital information in a timely manner, all four counties offer residents and visitors the ability to receive emergency notifications should they arise. These alerts will provide information on impending weather changes or emergencies.

Advisory, Watch, and Warning Alerts for:

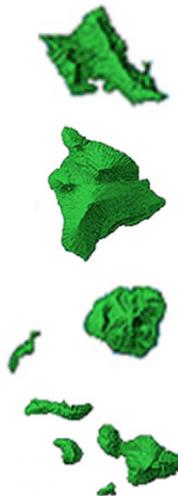
- ◇ Flood
- ◇ High Surf
- ◇ Fire Conditions
- ◇ Tropical Cyclone/Hurricane
- ◇ Tsunami

Other Notifications

- ◇ Earthquake
- ◇ Special Weather Statements
- ◇ Road Closures

In some alert systems, you may choose several locations you may want to hear emergency alerts for such as your residence, workplace, or child's school.

Registering takes minutes to sign up. These systems allow you to receive timely notifications about emergency situations. Please refer to the following links to find out more information on each county's emergency notification system and how to customize the types of alerts you want to receive.



City and County of Honolulu

https://www.honolulu.gov/rep/site/dem/HNL_Info_Fact_Sheet.pdf

County of Hawaii

<https://countyofhawaii.bbcportal.com/>

County of Kauai

<https://countyofkauai.bbcportal.com/>

Maui County

<https://www.mauicounty.gov/983/Active-Advisories-Watches-Notification-S>



Flood Preparation and Safety

Floods can happen anytime and anywhere. And they can happen fast. So whether you live near the water or not, you should always be ready. Here are some important things you can do to prepare.

BE PREPARED BEFORE A FLOOD

- Copy your most important documents (mortgage papers, deed, passport, bank information.) Keep copies in your home and store originals in a secure place outside the home, like a bank safe deposit box.
- Take photos of your most valuable possessions (furniture, musical instruments, electronic equipment.) Store copies with other documents.
- Save and store receipts for any expensive household items (appliances, electronic equipment, etc.) so that you have proof of original cost.
- Make an itemized list of other possessions, such as clothing, books, small kitchen appliances, etc. You don't have to note every item and it's cost, but the more comprehensive your list, the better.
- Flood insurance coverage is limited to certain elements in a basement, such as a furnace, a hot water heater and items essential to the building's structure.
- Review your policy and ask questions to make sure you have the proper level of protection.
- When the National Weather Service issues a flood watch, monitor potential flood hazards on NOAA Weather Radio All Hazards.

HAVE AN EMERGENCY PLAN

- Provide your insurance agent, employer, and family with emergency contact information, so that you can be reached after a flood.
- Put aside an emergency kit equipped with a large flashlight, spare batteries, candles and waterproof matches.
- Keep a minimum 14-day supply of non-perishable food and bottled water on hand.
- Include a battery-powered radio in your emergency kit. Even if you never experience a flood, you'll be glad to have this kit during a power outage.

BE SAFE DURING A FLOOD

Hopefully you never have to experience a flood, but if you do, here are a few things you can do to stay safe:

- When a flood warning is issued, heed official instructions.
- Don't walk through a flooded area. Just six inches of moving water can knock you down.
- Don't drive through a flooded area. Just two feet can lift and move a car, even an SUV. More people drown in their cars than anywhere else during a flood. (Turn around, don't drown!)
- Keep away from downed power lines and any other electrical wires – electrocution is often a major cause of death in floods.
- Watch out for animals who've lost their homes during a flood. Animals may seek shelter in your home and aggressively defend themselves.



Image: West Hawaii Today

To learn more about staying safe before and during a flood, visit www.FloodSmart.gov.

Source: FEMA F-684

HOW to File a Flood Insurance Claim

NATIONAL FLOOD
INSURANCE
PROGRAM



Report your loss to your insurance agent ASAP.

Within 24-48 hours, **an adjuster will call you** to schedule an appointment.



TIP

Photograph and then move water-damaged items outside (to prevent mold).

DURING THE ADJUSTER'S VISIT



The adjuster will:

- Have official identification.
- Take measurements and photos, and note direct flood damage.
- Provide you with a local contact if any additional visits are needed.
- Provide you with a flood certification number.
- Provide you a suggested Proof of Loss, based on the assessment.

The adjuster will not:

- Approve or disapprove claims.
- Tell you whether your claim will be approved.
- Tell you about other forms of assistance.

Be ready with:

- Your policy number, insurance company info, and best way to be reached.
- Lots of photos of your damaged property.
- Documents related to damaged property (i.e., contractors' estimates, receipts).
- Samples or swatches of carpeting, wallpaper, furniture upholstery, and window treatments.



YOU CAN REQUEST AN ADVANCE OR PARTIAL PAYMENT, IF NEEDED.

SUBMIT THE PROOF OF LOSS



Review, sign, and send the Proof of Loss to your insurance company.

REQUEST FOR ADDITIONAL PAYMENT

If you discover additional damage after filing your claim, or repairs cost more than estimated, you can file for additional payment. Contact your adjuster or insurance agent to start the process.

PAYMENT OF CLAIMS

By law, claim payment checks for structures must be made out in the mortgage holder's name. Contact your mortgage holder for more information.



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Make Hawaii a Great Place to Live !!



If the Water is Brown ~ Don't Come Down **Brown is bad.** That is, if you hear that a Brown Water Advisory has been issued.

Periods of heavy rain leads to the increase of storm runoff into the ocean prompting the Department of Health to issue the advisory for certain areas across the state. Streams and coastal waters may be polluted by flood water runoff and the public is asked to avoid dirty water as they may be

contaminated by waste from cesspools, sewer manholes, pesticides, animal feces and other debris associated by flooding runoff.

It would be wise to stay away from the water several days after the brown water advisory has been lifted or risk getting sick if you have an open wound or ingest the contaminated water. If the water is brown after a storm event, stay out and continue to practice good hygiene. Follow up with your primary care physician if you have any health concerns or if you have been exposed to polluted flood waters.

After extended periods of rain, inquire with lifeguards and look for signs posted along the beach before entering the water. Also, it would be best to refer to the Department of Health's Clean Water Branch's newly updated website: <https://eha-cloud.doh.hawaii.gov/cwb/#!/viewer> to check for water quality advisories and current warnings in your area. 

