

Emergencies

Wildfires

Wildfire Season: Year Round

The frequency and size of wildfires across Hawai‘i have substantially grown in the last two decades due to invasive fire-prone grasses moving in and around unprepared communities, increases in drought episodes and increases in human-caused accidental ignitions. Fires can and do happen at any time of year on both windward and leeward sides of all islands in Hawai‘i.

Wildfire is unlike other natural hazards. In Hawai‘i, most fires are accidentally started by people, which we can all do better to avoid. Fires can only burn where there is fuel to burn, which can be minimized through vegetation management and other actions. There is a great opportunity for preventing and reducing Hawai‘i’s wildfire threat if we all take appropriate wildfire-aware and wildfire-preparedness actions.

Stay aware of your surroundings throughout the year. Notice when vegetation is becoming dry. Notice the weather. Keep in mind that rain does not alleviate fire risk over the long term — in fact, it increases fire risk by growing more vegetation that eventually dries out and adds fuel to our already-flammable landscapes.

Throughout the year, pay attention to when grasses begin to dry out and turn yellow, brown and gray. These changes are an indicator that fire danger is increasing and you should be especially careful with any activities that may cause a spark. It is also the time to be sure that you have cleaned your yard and property so it can withstand a wildfire event and any wind-driven embers.

Also notice the temperature, humidity and wind on any given day. Fire risk is highest when it is hot, dry and windy. Be especially mindful of any activities that may cause a spark and refrain until the fire risk is lower.

Alerts, Warnings and What They Mean

- **Fire Weather Watch:** Be Prepared. The National Weather Service (NWS) issues a Fire Weather Watch that alerts the public of upcoming weather conditions which could result in extensive wildland fire occurrences or extreme fire behavior. A Fire Weather Watch means critical fire weather conditions are possible but not imminent or occurring.
- **Red Flag Warning:** Take Action. Be extremely careful with open flames and machinery that can cause sparks. Red Flag Warnings issued by the NWS alerts of the potential for widespread ignitions, or control problems with new or existing fires. A Red Flag Warning is issued when fire conditions are ongoing or expected to occur soon.
- **PSPS Alert:** As a last line of defense, Hawaiian Electric may temporarily turn off power in certain identified areas to reduce the risk of electrical infrastructure sparking a wildfire. We will do our best to provide advance notice, but if conditions are suddenly hazardous, we may have to shut off power with little or no notice. For more information about PSPS, see page 20.

Hardening Your Home

- Make sure your address is clearly visible from the road.
- Your roof is the most vulnerable part of your home because it can easily catch fire from windblown embers. Wood-shake or shingle roofs are at high risk; use fire-resistant material such as metal or tile.
- Clear any debris from your roof or gutters and cut any tree branches within 10 feet of your roof.
- Screen or enclose rain gutters to prevent the accumulation of plant debris.
- Use heavy timber or non-flammable construction material for decks. Enclose the undersides of balconies and decks with fire-resistant materials to prevent embers from blowing underneath. Keep your deck clear of combustible items such as baskets, dried flower arrangements and other debris.
- Heat from a wildland fire can cause windows to break even before the home ignites. Install dual-pane windows with an exterior pane of tempered glass to reduce the chance of breakage in a fire. Limit the size and number of windows in your home that face large areas of vegetation.
- Replace combustible building materials with non-combustible materials such as rock walls instead of wood fences.

- Prevent embers from entering your home structure by screening your lanai, vents and around the bottom of your home if it is on post and pier.
- Move all combustibles away from the home, and do not store flammable materials under or near your house.
- Remove all dead and dying vegetation and leaves from around the entire perimeter and structure of your home.
- Trim tree canopies regularly to keep their branches a minimum of 10 feet from structures, including your roof, other trees and power lines.
- Keep grass short and tree branches 10 feet off the ground to reduce “ladder fuels” which are hazardous pathways for the fire to travel from the ground up to the tree canopies, where they spread fast and far by the wind.
- Keep your yard watered. Healthy, hydrated plants are slower to ignite than dry or dead plant material.
- Remove all dead and dry vegetation from your yard, roof and rain gutters. The same winds that blow debris toward a collection area (underneath shrubs and lanai, next to the outer edges of home, etc.) will likely carry embers during a wildland fire to that same spot and ignite that pile.
- Consider replacing plants that drop leaves or need a lot of water with plants that are more drought-tolerant. Xeriscaping will help reduce maintenance, save water and money and mitigate fire risk. Many native plants and succulents are low-maintenance and drought-tolerant.
- Develop a yard maintenance schedule that prioritizes mowing grass, trimming low tree branches and removing leaf/needle piles, dry and dead vegetation and plant parts that are touching the home structure. Sweep your steps and pathways, too.

PREPARING for a Wildfire

There is little you can do to protect your home when a fire is already occurring. The time to prepare your home and yard is throughout the year, on a regular basis, and especially as conditions are getting dry and more fire-prone.

Preparing yourself, your family and your home for a wildfire is safer and exponentially more effective if done in advance and as part of your regular habits, housekeeping and landscaping.

- Do not park your car on dry grass.
- Be careful with any equipment (chainsaws, weed trimmers, lawn mowers and recreational vehicles) that may spark when using it.
- Avoid using sparking equipment, fireworks, campfires and open BBQs on dry windy days or if there is dry vegetation nearby.
- Put campfires out completely.
- Take extra care when using matches, lighters and cigarettes. Make sure they are completely extinguished when discarding.

What To Do DURING a Wildfire

- *Evacuate early. When in doubt, get out!* The safest thing you can do is to evacuate well in advance of an evacuation order. Most fatalities occur when people stay to defend their homes or get caught in evacuation traffic. By leaving early, you give your family the best chance of surviving. You also help emergency responders by keeping roads clear of congestion, enabling them to move more freely and do their job in a safer environment.
- Drive only on hardened surfaces and never drive or idle on dry grass.

What To Do AFTER a Wildfire

- Check the electric meter and the circuit breaker panel or fuse box. If they are damaged, do not attempt to turn them on.
- Be sure all appliances are in the off position before turning the main power back on.

For more information on wildfire prevention, visit Hawai'i Wildfire Management Organization at hawaiiwildfire.org/lookout

Hurricanes

Hurricane Season: June 1 – November 30

Alerts, Warnings and What They Mean

- **Hurricane Watch:** Hurricane conditions could possibly reach islands within 48 hours.
- **Hurricane Warning:** Dangerous hurricane conditions are expected to affect the islands within 36 hours or less.

Hardening Your Home

- A continuous load path provides a connection between your roof and your house's foundation and helps keep the roof from blowing off during a hurricane. Retrofitting your home to create a continuous load path includes installing hurricane clips, straps and anchors. Building codes require houses built after 1994 on Hawai'i Island and after 1995 on Maui and O'ahu to have a continuous load path connection that ties the roof to the wall to the foundation.
- Retrofit your home with hurricane clips, if needed. Building codes require houses built after 1988 on O'ahu, after 1990 on Maui and after 1994 on Hawai'i Island to have hurricane clips that tie the roof to the wall and prevent it from blowing off.

PREPARING for a Hurricane

- Unplug all unnecessary appliances.
- Turn refrigerators and freezers to their coldest setting.
- When planning to evacuate, shut off electricity at the circuit breaker panel or fuse box and gas and water at their main valves.
- Outside, take down canvas awnings or roll and secure them with sturdy rope or twine.
- Remove damaged trees and overhanging branches.
- Secure lawn furniture, garbage cans and other outdoor items that can become projectiles in high winds. Move items such as potted plants inside.
- Wedge sliding glass doors and windows with a brace or broom handle to prevent them from being lifted from their tracks or ripped loose by wind vibrations.
- Clear debris from rain gutters to prevent water damage to your property.
- Install permanent storm shutters or board windows with 5/8" exterior grade or marine plywood.
- Check door locks to ensure doors will not blow away.
- Store chemicals, fertilizers or other toxic materials in a safe section or secure area of the premises.
- Secure propane tanks. They should not be stored near sources of heat (like the water heater or other appliances).

What To Do DURING a Hurricane

- Stay away from windows and doors. Close all doors in your home, and if you are in a two-story house, go to a central first-floor room.

What To Do AFTER a Hurricane

Be aware of hazards, e.g., downed power lines, broken gas lines, contaminated water, weakened structures, broken glass, etc.

If you evacuated, wait until officials tell you it is safe to return home.

Inspect your home for damage. Document damage with photographs and contact your insurance company.

Remove standing water from your home, including soiled carpets, mattresses and other items that may contribute to the growth of mold.

Download the *Hawai'i Homeowners Handbook to Prepare for Natural Hazards* at <https://seagrant.soest.hawaii.edu>

Tsunamis

Tsunami Season: Year Round

Alerts, Warnings and What They Mean

- **Local Urgent Tsunami Warning:** Issued when a local earthquake with the potential to create a tsunami has occurred and the Pacific Tsunami Warning Center has determined damaging waves are probable. Sirens and other notification systems will sound immediately. People in tsunami evacuation zones should evacuate immediately as wave travel time may be as short as 10-20 minutes after the warning.
- **Distant Tsunami Warning:** Evacuation sirens will sound at least three hours before wave arrival. Safe site locations will be broadcast over TV, radio, mobile device or NWR.

PREPARING for a Tsunami

- Find out if you are in a tsunami evacuation zone. Review the tsunami evacuation zone maps in the "Disaster Preparedness Guide" in the telephone yellow pages directory or online at www.ready.hawaii.gov.
- Vertical evacuation is an option. Head to the fourth floor or higher of a 10-story or taller structural steel or reinforced concrete building.
- Remain at least 100 feet away from inland waterways and marinas connected to the ocean due to wave surges and possible flooding.
- If you are outside evacuation zones when a tsunami warning is issued, shelter in place to keep roadways open for people who must seek higher ground.

What To Do DURING a Tsunami

- If you are on the shoreline and feel the ground shake, observe an unusual receding of the ocean or hear a loud roaring sound, go inland or to higher elevations immediately. These are natural tsunami warnings!

What To Do AFTER a Tsunami

- Do not return to coastal areas until the “all clear” has been announced by emergency officials.

For more information visit www.ready.hawaii.gov

Floods

Flood Season: Year Round

Alerts, Warnings and What They Mean

- **Flash Flood or Flood Watch:** Flash flood or flooding is possible. Be prepared to move to higher ground.
- **Flash Flood or Flood Warning:** Flash flood or flooding has been reported or is imminent. Take necessary precautions at once. If advised to evacuate, do so immediately. Get to higher ground and out of areas subject to flooding.
- **Small Stream Flood Advisory:** Flooding of small streams, streets and low-lying areas is occurring. Avoid areas already flooded. Do not attempt to cross flowing streams.

Hardening Your Home

- Avoid building in a flood plain unless you elevate and reinforce your home.
- Grade yards and patios to speed drainage.
- Elevate your air conditioner, water heater and circuit breaker panel or fuse box if your property is susceptible to flooding.
- Install “check valves” in sewer traps to prevent floodwater from backing up into the drains of your home.
- Seal walls in basements with waterproofing compounds to avoid seepage.
- Construct barriers (levees, beams and floodwalls) to stop floodwater from entering the building.

PREPARING for a Flood

- Keep essential documents in a waterproof container. Consider creating password-protected digital copies (on a USB drive or uploaded to the cloud).
- Move essential items, valuable papers and belongings to upper floors or higher elevations.
- Put cleaning supplies in a box and elevate the box to a countertop, tabletop or higher elevations to prevent chemical spills into floodwaters.
- Do not allow children to play along streams or near drainage ditches. Both can quickly turn deadly during times of heavy rainfall.
- Check and clear drains.
- Have your insurance policies, agent’s name and itemized list of personal property, including furnishings, clothing and valuables, in a secure location such as a safe deposit box. Photographs and videos of your home (inside and out) are helpful, as they will assist an adjuster in settling claims and help prove uninsured losses.
- If you live in an area that is frequently flooded, keep materials such as sandbags, plywood, plastic sheeting and lumber on hand that can be used to protect your property.
NOTE: Sandbags should not be stacked directly against the outer walls of a dwelling. When wet, the bags may create added pressure on the structure.

What To Do DURING a Flood

- Head for higher ground and stay away from floodwaters!
- If you are caught in the house by sudden rising waters, move to the second floor (if possible) or the roof if necessary. Take warm clothing, a flashlight and a portable radio with you and wait for help. Do not try to swim to safety. Rescue teams will be looking for you.

What To Do AFTER a Flood

- Avoid floodwaters. The water may be contaminated by oil, gasoline or raw sewage. The water may also be electrically charged from underground or downed power lines.
- Stay at least 30 feet away from downed power lines and call 911.
- Return home during daylight hours, after authorities have indicated it is safe to do so.
- Turn off your home's power at the main fuse box or circuit breaker panel. Even if the electric utility has turned off the power in your area or removed your electric meter, you must still make sure the power supply to your home is disconnected. You do not want the electric utility company to turn it on without warning while you are working on it. Do not step in water to get to your circuit breaker panel or fuse box, and call a licensed electrician. If you can get to your circuit breaker panel or fuse box without going through or standing in water, you can turn off the power yourself.
- If appliances are wet, turn off the electricity at the circuit breaker panel or fuse box. Unplug appliances and let them dry out. Have the appliances checked by a professional before using them again.
- Have your home inspected and repaired by a licensed electrician whenever your home has experienced water damage. If your appliances are wet, have them inspected and repaired by a professional before using them. Attempting to inspect and repair your home's electrical system and appliances by yourself could result in serious injury or death.

For more information visit www.weather.gov/safety and www.fema.gov/flood-maps