



VOLCANO

Volcanic hazards include lava flows, airborne particles of ash, cinder, and volcanic glass, corrosive volcanic gases, ground movement and ground cracks.

Precautions

- Be prepared to evacuate.
- Know your community warning systems.
- Be prepared for other related disasters: earthquakes, flash floods, landslides, mudflows and tsunamis.
- Prepare an evacuation plan and survival kit.
- Develop an emergency communication plan.
- Ask a family or friend who does not live with you to serve as the “family contact.”
- Have goggles and throw-away breathing masks for each member of the household.

ACTION PLAN

- ✓ Be prepared to evacuate.
- ✓ Close all windows and doors.
- ✓ Bring animals and livestock into closed shelters if possible.
- ✓ Avoid low-lying areas where poisonous gases can collect.
- ✓ If caught near a stream, beware of mudflows.
- ✓ Use goggles to protect eyes.
- ✓ Use face mask, dust mask or hold a damp cloth over face to help breathing.
- ✓ Stay out of lava flow areas.



LANDSLIDE

A “landslide” happens when gravity forces land downward, often due to too much rain.

Precautions

- Stay away from areas prone to landslides.
- Become familiar with the land around you.
- Observe hillsides around your home for any cracks or signs of land movement.
- Plant ground cover on slopes for stabilization.
- Watch the patterns of storm water drainage on slopes near your home.

ACTION PLAN

- ✓ Research the geologic and hydrologic history of your area.
- ✓ Be prepared for evacuation.
- ✓ Stay away from walls facing hillsides.
- ✓ Keep away from downed power lines.
- ✓ Turn off gas, electricity and water that may cause additional property damage and disasters.



WILDFIRE

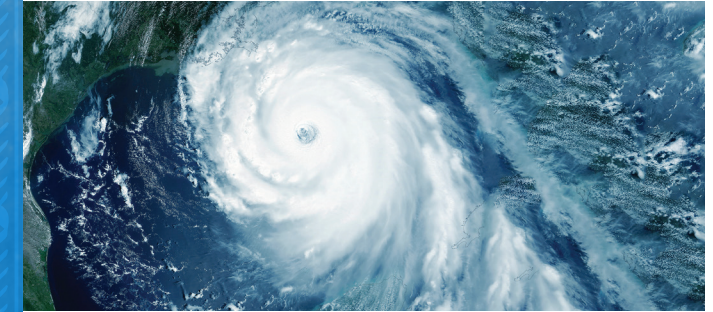
All the Hawaiian Islands are susceptible to wildfires, especially during prolonged drought and high winds.

Precautions

- Properly discard flammable items.
- Clear debris around your house.
- Clean roof and gutters regularly.
- Use fire resistant materials when building.
- Plant a fire safe landscape.
- Purchase fire extinguishers and have them readily available.
- Install smoke detectors in all rooms; test once a month.

ACTION PLAN

- ✓ Call 911 at the first sight of a wildfire.
- ✓ If you see a smoldering brush fire, extinguish with a fire extinguisher if you can do so safely.
- ✓ Plant fire retardant plants that will help resist the spread of fire to your home.
- ✓ Be prepared to evacuate.
- ✓ Listen to authorities.



HURRICANE

High winds, heavy rain, flooding, damaging surf and coastal inundation.

Know the terms

If a “watch” has been issued, the hurricane is expected within 36 hours. Stay alert. If a “warning” is issued, the hurricane is expected within 24 hours or less.

Precautions

- During a “watch,” listen to radio/TV for instructions.
- Assemble your survival kit.
- Prepare a personal evacuation plan.
- Keep in hand important telephone numbers, maps and other important documents.
- Stock extra food, batteries and drinking water.
- Buy flood insurance.
- Install hurricane storm roof clips and shutters or pre-cut marine plywood for windows.

ACTION PLAN

- ✓ Know where you will seek shelter from the storm if advised to evacuate your home.
- ✓ During a warning, board windows.
- ✓ Secure loose objects that may blow away.
- ✓ Leave areas that may flood.
- ✓ During high winds, stay indoors and away from windows. Keep windows closed.
- ✓ Keep away from exterior walls and doors.
- ✓ Be aware, the calm “eye” of the hurricane is deceptive; the storm is not over. The worst part of the hurricane happens once the eye passes over.

BEING PREPARED FOR NATURAL HAZARDS



Hawai'i Emergency Management Agency
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TSUNAMI

Series of destructive ocean waves that can affect all shorelines. May occur with limited or no warning.

Know the terms

WATCH: Tsunamis are possible; be ready to move to safety.

ADVISORY: Stay out of the water.

WARNING: Evacuate coastal areas immediately.

Precautions

- Know if your home, school, or work place is in the tsunami inundation zone.
- Buy flood insurance.
- Have an evacuation plan and disaster kit ready.
- Pick a meeting location that is inland and elevated.

ACTION PLAN

- ✓ Evacuate at once if you are in the inundation zone and hear an official warning or detect natural signs of a tsunami (e.g., strong earth shaking or unusual ocean activity).
- ✓ Go to higher ground or vertically evacuate to the 4th floor or higher in a reinforced concrete or structural steel building that is 10 stories or more.
- ✓ Do not assume that one wave means that the danger is over. The next wave may be larger than the first.
- ✓ Stay out of the inundation area.
- ✓ Return home only after authorities advise it is safe to do so.



EARTHQUAKE

Violent earth movement occurring without warning.

Precautions

- Keep flashlight, footwear and radio accessible.
- Anchor tall bookcases and file cabinets.
- Secure propane tanks and water heaters.
- Secure and anchor appliances and computers to wall studs.
- Use a licensed contractor to install bracing to the house foundation.
- Use a licensed contractor to install flexible connections on gas and water lines to prevent ruptures.
- Anchor overhead lighting fixtures.

ACTION PLAN

- ✓ **DROP, COVER AND HOLD ON.** Drop under a sturdy table. Cover head and neck with one arm. Hold on until shaking stops.
- ✓ Move away from buildings, street lights, and utility wires.
- ✓ **DO NOT** rush to the exit. **DROP, COVER** and **HOLD ON.**
- ✓ **IN HIGH-RISE BUILDINGS:** Stay on the same floor; do not use elevators.
- ✓ **DO NOT DRIVE.** Pull over to the side of the road and remain in the vehicle. Do not stop vehicle under bridges, overpasses or overhead power lines.



EROSION

Coastal erosion occurs when the beach migrates and shifts its position landward, usually caused by winter or storm wave action.

Precautions

- Consult with various experts and state and county agencies that are familiar with coastal erosion and that can recommend appropriate action.
- Evaluate the potential for moving dwellings and other structures further away from the shoreline.

ACTION PLAN

- ✓ Know about adequate, site-specific setbacks from the shoreline, and appropriate landscaping and developmental practices.
- ✓ Comply with building codes and land use regulations; refer to the FEMA Coastal Construction Manual for guidelines.
- ✓ Ask questions and get advice from the proper authorities.



DROUGHT

A drought is a period of abnormally dry weather. Drought diminishes natural stream flow and depletes soil moisture, which can cause social, environmental and economic impacts. Drought is also closely associated with causes of wildfire.

Precautions

- Keep a sufficient supply of drinking water.
- Learn to cut back on water use.
- Water yards in the early morning or late afternoon, when it is cooler.
- Water every other day.
- Clear dry debris from your property to prevent wildfires from starting or spreading.

ACTION PLAN

- ✓ Ensure water is turned off after use (saves up to 3 gallons of water per minute).
- ✓ Install water-saving showerheads or flow restrictors.
- ✓ Wait until you have a full load before using your washing machine or dishwasher.
- ✓ Detect leaks in your pipes. A leaky pipe can add \$30 to your monthly water bill.



FLOOD

Rapid flooding of streams, valleys and other flood-prone areas.

Know the terms

If a “watch” has been issued, flooding is possible. Stay alert. If a “warning” is issued, flooding is imminent or already occurring.

Precautions

- Know if you live in a potential flood zone.
- Buy flood insurance.
- Anchor your water tank to prevent property damage or personal injury.
- Remain clear of drainage channels.
- Be aware of potentially unsafe areas below dams and reservoirs.
- Listen for evacuation notices.

ACTION PLAN

- ✓ Stay away from flood water; do not attempt to swim, walk or drive through.
- ✓ Do not touch electrical equipment if wet.
- ✓ Avoid downed power lines.
- ✓ Do not drink tap water (may be contaminated).
- ✓ Move valuables to upper floors.
- ✓ If you are trapped with water rising rapidly around you, get out of your car and climb to higher ground.