EMERGENCY PREPARDNESS



IT'S PREP TIME!
DIASTER CAN STRIKE AT ANY TIME.
ARE YOU READY?

HURRICANE PREPARDNESS

Marine Corps Base Hawaii | Kaneohe HI | https://www.facebook.com/MarineCorpsBaseHawaii/Facebook

REGISTER FOR ATHOC NOTIFICATIONS BY CONTACTING INSTALLATION PROTECTION AT (808) 257-8460 OR (808)257-3019

PREP STEPS

- Stay informed: Verify and update official contact information in the <u>Marine Corps Enterprise Mass Notification System</u> (eMNS) and register all cell phones, home phone, email addresses, etc. in eMNS.
- Determine whether your property is in danger from tidal floods, storm surges, or dam failures, and take flood precautions.
- Learn community evacuation routes and how to find higher ground.
- Make a written family evacuation plan.
- Make a written family communication plan in case you are separated.
- Make plans to secure your property:
- Cover all of your home's windows with permanent storm shutters, which offer the best protection for windows, or with 5/8" marine plywood, cut to fit and ready to install.
- Install straps or additional clips to securely fasten your roof to the frame structure to reduce roof damage.
- Trim trees and shrubs around your home so they are more wind resistant.
- Clear loose and clogged rain gutters and downspouts.
- Reinforce your garage doors to prevent dangerous and expensive structural damage.
- Bring in all outdoor furniture, decorations, garbage cans, and anything else that is not tied down.
- Build an emergency kit.

HURRICANE TERMINOLOGY

- Tropical depression—A system of clouds and thunderstorms with a defined surface circulation and sustained winds that do not exceed 38 mph.
- Tropical storm—A system of clouds and thunderstorms with a defined surface circulation and sustained winds 39-73 mph.
- Hurricane/Typhoon—A system of clouds and thunderstorms with a defined surface circulation and sustained winds 74 mph or higher.
- Storm surge—An abnormal rise of water pushed ashore by a storm, over and above the predicted astronomical tide. Storm surges, which are often the greatest threat to life and property, are affected by a number of complex factors and can vary in magnitude despite hurricane categories. For example, Hurricane Katrina, a category 3 hurricane, had a storm surge of 28 ft., while Hurricane Charley, a category 4 hurricane, had a storm surge of 6-8 ft.
- Storm tide—A combination of storm surge with normal tide, increasing the amount of water (e.g., a 15-foot storm surge with a 2-foot normal tide creates a 17-foot storm tide).
- Hurricane/tropical storm warning—Hurricane/tropical storm conditions are expected within 36 hours in specified areas.
- Hurricane/tropical storm watch—Hurricane/tropical storm conditions are possible within 48 hours in specified areas. Stay tuned to radio or TV for further information.
- Short-term watches and warnings—Provide detailed information about specific threats during hurricanes, such as flash flooding or tornadoes.

HURRICANE CATEGORIES

- Category 1—Winds 74–95 mph, 64-82 kt, 119-153 km/h, very dangerous winds will produce some damage.
- Category 2—Winds 96–110 mph, 83-95 kt, 154-177 km/h, extremely dangerous winds will cause extensive damage.
- Category 3—Winds 111–129 mph, 96-112 kt, 178-208 km/h, devastating damage will occur.
- Category 4—Winds 130–156 mph, 113-136 kt, 209-251 km/h, catastrophic damage will occur, well-built framed homes can sustain severe damage with loss of most of roof structure and/or some exterior walls.
- Category 5—Winds exceeding 157 mph, 137 kt, 252 km/h, catastrophic damage will occur, high percentage of framed homes will be destroyed with total roof failure and wall collapse.

WHAT TO PUT IN YOUR BASIC HOME KIT NECESSARY ITEMS

- Water—at least one gallon per person per day for at least three days
- Food—nonperishable food to support everyone in the household for at least three days (Include canned goods with low salt and high liquid content.)
- Manual can opener
- First aid kit
- Prescription medications—enough for at least three days
- Dust masks or cotton t-shirts for every member of the household to help filter the air

^{*}Category 3, 4, and 5 hurricanes are considered "major hurricanes."

^{*}In the western North Pacific, the term super typhoon is used for tropical cyclones with sustained winds exceeding 150 mph.

- Personal sanitation supplies—items such as moist towelettes (one container for every two people in the household), garbage bags, and plastic ties
- Flashlight—one flashlight for every two people in the household
- Battery-powered or hand-crank radio
- All-hazards NOAA (National Oceanic and Atmospheric Administration) weather radio
- Extra batteries—sizes and quantities based on flashlights, radios, and other items in kit)
- Money (at a minimum, \$100 in local currency, small denomination bills)
- Wrench or pliers for turning off utilities
- Local maps and your emergency plan
- Your command personnel accountability Point of Contact information
- Important personal and financial documents—printed copies or electronic copies on a durable storage media such as a thumb drive and stored in waterproof container

ADDITIONAL ITEMS

- Infant formula—enough for at least three days
- Diapers—enough for at least three days
- Food and water for your pet—enough for at least three days
- Items for individuals with special needs, such as wheelchair batteries or other medical equipment or supplies
- Paper plates, paper cups, plastic utensils, paper towels
- Disinfectant
- Matches in a waterproof container
- Whistle to signal for help
- Sturdy shoes
- Hats and gloves (Seasonal)
- Sleeping bag or other weather-appropriate bedding for each person
- A weather-appropriate change of clothes for each person
- Coats, jackets, and rain gear (Seasonal)
- Fire extinguisher
- Paper and pencil
- Books, games, puzzles, toys, and other activities for children
- Any items necessary for a specific type of disaster and to assist you during electricity, gas, water, and sewage outages. Additionally, you may want to consider having supplies for sheltering for up to two weeks.

Information above gathered from: https://www.ready.marines.mil/ Visit the website for more information!





A tsunami (pronounced soo-nahm-ee) is a series of waves (not just one) caused by a large and sudden disturbance of the sea. Tsunami waves move outward in all directions from where it started. They can move across entire oceans. As the big waves approach shallow waters along the coast, they grow to a great height and smash into the shore. They can be as high as 100 feet. They can cause a lot of damage on the shore. Most tsunamis are caused by undersea earthquakes. However, they can also be caused by landslides, volcanic activity, and even meteorites. Not all earthquakes cause tsunamis.

Words to Know

Debris - Rubble, trash, or random material such as large pieces of wood, metal, or plastic.

Inland - Away from the coastline.

Evacuation - Leaving an area that has been declared unsafe.

Seismic Sea Waves - Another way to describe tsunamis.

Am I at Risk?

Tsunamis generally appear in the Pacific Ocean and coastal areas. Hawaii is the state at greatest risk for a tsunami. They get about one a year, with a damaging tsunami happening about every seven years. Alaska is also at high risk. Coastal states, like California, Oregon and Washington experience a damaging tsunami about every 18 years. Tsunamis can strike any U.S. coastline. Areas within a mile of the shoreline and areas less than 25-feet above sea level are at greater risk. Tsunamis generally appear in the Pacific Ocean and coastal areas. Hawaii, Alaska, Washington, Oregon, California, and the U.S. Caribbean islands are at greatest risk for a tsunami.

What Can I Do?

Before

- Build an emergency kit with items that you will need in case you need to evacuate quickly.
- Make a family communications plan. Review evacuation routes and sheltering in place guidelines during a pandemic.
- If you see the water pull back from the shore out to sea very quickly, get away from the area immediately.
- There are four levels of tsunami alerts issued by the <u>tsunami warning centers</u> for United States and Canadian coastlines:
 - o **Tsunami Warning: Take Action—Danger!** Follow instructions from local officials. Evacuation is recommended. Move to high ground or inland (away from the water).
 - Tsunami Advisory: Take Action. Stay out of the water and away from beaches and waterways. Follow instructions from local officials.
 - Tsunami Watch: Be Aware. A distant earthquake has occurred. A tsunami is possible. Stay tuned for more information. Be prepared to take action if necessary.
 - Tsunami Information Statement: Relax. An earthquake has occurred, or a tsunami warning, advisory or watch has been issued for another part of the ocean. Most information statements indicate there is no threat of a destructive tsunami.
- Listen to evacuation orders and leave the area immediately if told to do so.
- Take any pets with you.
- Move inland (away from the ocean) and towards higher ground.
- Stay away from the beach. Never go down to the water to watch a tsunami come in. If you can see the wave, you are too close to escape it.
- If you see the water pull back from the shore out to sea very quickly, get away from the area immediately.
- Move to the upper levels of a tall, fortified building to minimize your hazard exposure.

During

- Listen to evacuation orders and leave the area immediately.
- Take any pets with you.
- Move inland (away from the ocean) and towards higher ground.
- Stay away from the beach. Never go down to the water to watch a tsunami come in. If you can see the wave, you are too close to escape it.

- If the water recedes from the shoreline or goes out to sea in a very noticeable way, get away from the area immediately. This is nature's warning that a tsunami is coming.
- Move to the upper levels of a tall, fortified building to minimize your hazard exposure.

After

- Don't return home unless officials tell you it is safe to do so. Tsunami waves can continue for hours and the next
 wave may be more dangerous than the first.
- Stay away from debris in the water. It could be dangerous.
- Carefully watch every step you take. Stay away from debris in the water. It could be dangerous because it could contain harmful chemicals or may be electrified by downed power lines
- Stay out of any building with water around it. Water can make floors crack or walls collapse.
- Text, don't talk. Unless there's a life-threatening situation, send a text so that you don't tie up phone lines needed by emergency workers. Plus, texting may work even if cell service is down.
- Be very careful before re-entering your home or other buildings. Tsunami-driven floodwater has likely damaged the building in many ways that you can't see. Be sure a parent or adult is with you.
- Know that it's normal to feel anxious or stressed out. Everyone reacts differently to stressful situations. Take care of your body and talk with your parents or other trusted adults if you are feeling upset.

Learn More

Did you know?

"Tsunami" is a Japanese word. Tsu means "harbor" and nami means "wave." On the open spaces of the ocean, a fast-moving tsunami may only be a few feet high, with 100 miles separating wave crests. As they approach shore, waves increase in height and currents intensify, which create a bigger threat to life and property. Few tsunamis "break" like the waves seen in wind-generated waves popular with surfers. Tsunamis are more often associated with strong currents and walls of water that do not retreat like normal tidal waves do. Tsunamis may be local, regional, or far away. The type of tsunami depends on the location of where the tsunami started and where it may hit land.



An earthquake is the sudden, quick shaking of the earth. It is caused by rock breaking and moving under the ground. Additional earthquakes, known as aftershocks, can occur for hours, days, or even months after an earthquake. These are usually smaller than the first earthquake. However, they could cause more damage to structures weakened by the first earthquake. Earthquakes can also cause <u>tsunamis</u>. Tsunamis are a series of waves caused by a large and sudden disturbance of the sea.

Words to Know

Aftershock - Another earthquake that happens after the first earthquake. These are usually smaller than the first earthquake.

Fault Lines - Cracks in the rocks below the earth's surface.

Seismograph - A machine that measures an earthquake.

Epicenter - The center of an earthquake. Vibrations are sent from the epicenter in many directions.

Seismic Activity - This is another word for earthquakes, along with tremors, quakes, and shakers.

Am I at Risk?

All 50 states and five U.S. territories are at some risk for earthquakes. Earthquakes can happen at any time of the year and occur without warning. Scientists are working on a way to detect when an earthquake may happen.

What Can I Do?

Before

- Build an emergency kit with items that you will need if you have to evacuate quickly.
- Make a family communications plan.
- Know the safe spots in every room—under a sturdy table or against an inside wall.
- · Secure household items.
- Ask your family to hold earthquake drills—drop, cover, and hold on!

DuringIf Inside

- DROP to the ground.
- Take COVER under a sturdy table or other heavy furniture. If there is nothing to get under, cover your face and head with your arms and crouch near an inside wall. Try your best not to touch your eyes, nose, or mouth.
- HOLD ON until the shaking stops.
- STAY AWAY from windows, glass, lighting fixtures, or furniture that could fall, like bookcases.
- STAY INSIDE!
- Do not use elevators!
- If trapped under debris:
 - Cover your mouth with your shirt. Try to touch only your shirt. Try not to touch your mouth, nose, and eyes, especially with unwashed hands. If you are wearing a mask, you can use this instead of your shirt.
 - Do not scream you could breathe in dust.
 - o Tap on a pipe or wall so rescuers can find you.

If Outside

- Stay there. Move away from buildings, streetlights, and wires.
- Stay out in the open until the shaking stops. Buildings could collapse and hurt you.







After

- Expect aftershocks. They are usually not as strong but can cause damage.
- Do not enter a damaged building.
- Open cabinets carefully. Objects might have moved and could fall on you.
- Wear long pants, long sleeves, and shoes to protect your skin from getting scratched by broken objects.
- Text, don't talk. Unless there's a life-threatening situation, send a text so that you don't tie up phone lines needed by emergency workers. Plus, texting may work even if cell service is down.
- Everyone reacts differently to stressful situations. Take care of your body and talk with your parents or other trusted adults if you are feeling upset.

Learn More

The "Ring of Fire' is the zone surrounding the Pacific Ocean where about 90% of the world's earthquakes occur. The Richter Scale measures the strength of an earthquake. It goes from 0.0 (none) to 10.0.



Hurricanes are severe tropical storms that form in the southern Atlantic Ocean, Caribbean Sea, Gulf of Mexico, and in the eastern Pacific Ocean. They collect heat and energy through contact with warm ocean waters and then move toward land. Evaporation from the ocean water increases their power. Hurricanes rotate in a counter-clockwise direction around an "eye," which is the center of the hurricane. Hurricanes have winds at least 74 miles per hour. When hurricanes come onto land, their heavy rain, strong winds, and large waves can damage buildings, trees, and cars. Storm surge is when rising water moves inland, or away from the coastline. It's very dangerous.

Words to Know

Evacuation - Leaving an area that officials say is unsafe.

Eye - The center of the storm. Winds and rains die down, but they will start up again very quickly.

Inland - Away from the coastline.

Storm Surge - Heavy waves caused by high wind and a lot of rain.

Tropical - An area of the country that is closer to the equator.

Am I at Risk?

Hurricanes are most common between June and November. Any U.S. coast by the Atlantic or Pacific Ocean can get hit and you can feel the effects more than 100 miles inland. People who live on the coast may experience extreme winds and flooding from rain and storm surge. People who live inland are at risk for wind, thunderstorms, and flooding.

What Can I Do?

Before

- Build an emergency kit.
- Make a <u>family communications plan</u>. Plan how to communicate with family members if you lose power or are separated.
- Help your parents bring in outdoor items like potted plants, patio furniture, decorations, and garbage cans. They
 can fly away in strong winds!

During

- Don't open the refrigerator or freezer. In case you lose power, you want the cold air to stay in so food will last longer!
- Stay away from windows and glass doors. They could break and hurt you.
- If you did not evacuate, stay inside a closet, hallway, or a room without windows.
- Listen to your parents or safety authorities for important instructions.

After

- Don't go near any wires that are loose or dangling. They could electrocute you!
- Tell your parents if you smell gas.
- Text, don't talk. Unless there's a life-threatening situation, send a text so that you don't tie up phone lines needed by emergency workers. Plus, texting may work even if cell service is down.
- Know that it's <u>normal to feel anxious or stressed out</u>. Everyone reacts differently to stressful situations. Take care of your body and talk with your parents or other trusted adults if you are feeling upset.

Learn More

Did vou know?

Hurricanes can also affect areas greater than 100 miles away from the coastline. People who live inland are also at risk for wind, thunderstorms, tornadoes, and flooding.



Volcanos



A volcano is an opening in the Earth's crust that allows molten rock, gases, and debris to escape to the surface. A volcanic eruption may release acid, gases, rocks, and ash into the air. Lava and debris can flow at up to 100 miles per hour, destroying everything in their path. About 11 percent of the world's active volcanoes are located in the U.S., which has approximately 170 volcanoes. These volcanoes are both active and dormant. Earthquakes, flash floods, landslides, debris and mudflow (lahar), or acid rain may happen at the same time as a volcanic eruption.

Words to Know

Ash - Fine fragments (less than 2-4 mm) of volcanic rock. Volcanic ash is gritty, abrasive, and can be corrosive.

Eruption - A sudden, violent outburst, like an explosion.

Lava - Molten rock that comes from a volcanic explosion and the rock that results after it has hardened and cooled.

Lava Rock - Volcanic lava that has hardened after it has cooled.

Molten - Made liquid by heat, melted.

Dormant - Dormant volcanoes no longer erupt. However, they might erupt again in the future.

Lahars - Also called mudflow or debris flow, it is a mixture of water and volcanic debris that moves quickly downstream.

Lava Flow - A slow moving river of molten (liquid) rock that pours from a volcanic eruption.

Magma - Molten rock beneath the surface of the earth.

Pyroclastic Flow - A thick, fast-moving, and extremely hot avalanche of ash, pumice, and rock. It can move up to 50-100 mph.

Am I at Risk?

Alaska, Hawaii, California, and Oregon have the most active volcanoes. However, other states and territories also have active volcanoes. Volcanic ash can travel hundreds of miles and cause severe health problems.

What Can I Do?

Before

- Build an emergency kit. Include items that you will need if you have to evacuate quickly.
- Make a family communications plan.
- In addition to all hazard supplies, include: goggles, N-95 disposable mask, long-sleeved shirts, long pants, and supplies to seal ash out of your home.
- Since volcanic ash may ruin water supplies, include additional supplies of water.
- Learn about your community's volcanic eruption warning systems and emergency evacuation plans. Many communities have sirens to alert public of a possible volcanic eruption.
- Learn about the U.S. Geological Survey (USGS) Volcano Hazards Program alert-level system:
 - NORMAL (green): Volcano is in a noneruptive state, or has returned to a noneruptive state after a higher level of volcanic activity.
 - ADVISORY (yellow): Volcano is showing signs of heightened activity above known background level. An
 advisory (yellow) could also mean that volcanic activity has decreased significantly after being at a higher
 level, but continues to be closely monitored in case it returns to a high level.
 - WATCH (orange): Volcano is showing higher unrest with increased potential of eruption, timeframe uncertain. A watch could also mean that an eruption is underway but poses limited hazards.
 - o WARNING (red): Hazardous eruption is imminent, underway, or suspected.

During

- Follow the evacuation order issued by authorities. Evacuate immediately from the volcano area. You may be asked to evacuate early to provide time to leave the area while routes are available.
- Look out for a flowing river of mud (mudflow). Look upstream before you cross any bridges to make sure a mudflow is not coming. If it is, do not cross the bridge. The mudflow could destroy it.
- For lahars—move to high ground off valley floors.

After

- Listen to safety officials.
- Text, don't talk. Unless there's a life-threatening situation, send a text so that you don't tie up phone lines needed by emergency workers. Plus, texting may work even if cell service is down.
- Know that it's normal to feel anxious or stressed out. Everyone reacts differently to stressful situations. Take care of your body and talk with your parents or other trusted adults if you are feeling upset.

Learn More

Did you know?

Volcanic ash....

- is made up of tiny jagged rock and glass
- can block sunlight and sometimes come with lightning
- can pile up like heavy snowfall but doesn't melt or dissolve in water
- can clog and jam machinery (including aircraft), causing damage

That's why it's important to keep and wear a N-95 dust mask and eye goggles or glasses (not contact lenses) if you are in a volcanic ashfall area! Wear long-sleeved shirts and long pants to help reduce exposure.



Flooding is when a lot of water overflows onto land that is normally dry. It is the most common natural-weather event. Flooding can happen during heavy rains, when rivers overflow, when ocean waves come on the shore, when snow melts too fast, or when dams or levees break. Flooding may be only a few inches of water, or it may cover a house to the rooftop. Floods that happen very quickly are called flash floods. Floods can cause power outages, disrupt transportation, damage buildings, and create landslides.

Words to Know

Flash Flood - A flood that can happen in a few minutes or hours of heavy rainfall, dam/levee failure, or drains overflowing.

Flood Watch - A message that flooding is possible.

Flood Warning - A message that flooding will happen soon (if it hasn't already).

Levee/Dam - A structure to contain or prevent water from overflowing and flooding an area.

Am I at Risk?

Floods can happen in every U.S. state and territory. Some floods develop slowly, and some can happen in just a few minutes. People who live in low-lying areas (near water sources or at sea-level) are at even greater risk. Storms and hurricanes can cause flooding. Melting snow from mountains can also cause floods.

What Can I Do?

Before

- Make a plan. Having a plan of what you and your family will do in the event of an emergency will help.
- Work with your parents to build an <u>emergency kit</u> with items that you will need if you have to evacuate quickly.
- Make a family communications plan.
- Tell an adult if you hear about a flood warning on the TV or radio.
- Help your family move important items to an upper floor.

During

- Pay attention to authorities and safety officials. If there is any possibility of a flash flood, move to higher ground or find shelter.
- Do not walk, swim, drive or ride in a car through flood waters. Even six inches of moving water knock you off your feet
- Stay off bridges over fast-moving water. Fast-moving water can wash bridges away without warning.

After

- Do not touch electrical equipment if it is wet or if you are standing in water.
- Stay away from flood water. Flood water may be contaminated, meaning containing dangerous substances.
- Stay away from moving water. It can knock you off your feet.
- Stay out of the way of emergency workers so they can do their job easily.
- Know that it's normal to feel <u>anxious or stressed out</u>. Everyone reacts differently to stressful situations. Take care of your body and talk with your parents or other trusted adults if you are feeling upset.

Learn More

Did you know?

Flooding can wash out walkways, roads, and fields, making them impossible to detect under flood water. Do not walk or ride in a car through water. It might be deeper than you think! A foot of water can sweep a vehicle off the road. Stay away from moving water!

Information above gathered from https://www.ready.gov/be-informed .

Please visit their website for more information!