

# International Tsunami Information Center

## 2023 Tsunami Evacuation Planning

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# Unique Challenges: Isolation



LOSS OF REFINERY, PETROL PORT, JET FUEL MOVEMENT



LIKELY SOME LOSS OF HARBOR FUEL STORAGE, RESULTING IN CONTAMINATION/



# RETAIL GAS STATIONS WITH GENERATORS = ~5



ESTIMATED LOSS OF 50% OF GENERATION & 50% DAMAGE TO T&D SYSTEMS



5 DAYS OF FOOD ON HAND AFTER PORT CLOSES

14 DAYS OF HDR'S  
1 MEAL A DAY FOR 1M PEOPLE=  
445 FLIGHTS @ \$500 MILLION

48-72 HOURS TO ASSESS PORT

CHANNEL LIKELY BLOCKED  
NO LARGE SCALE DREDGING & SALVAGE EQUIPMENT IN STATE - 7 - 10 DAYS AWAY

PORT OF HNL COULD BE DOWN DAYS POST EVENT TO LONGER & MONTHS BEFORE FULL CAPACITY

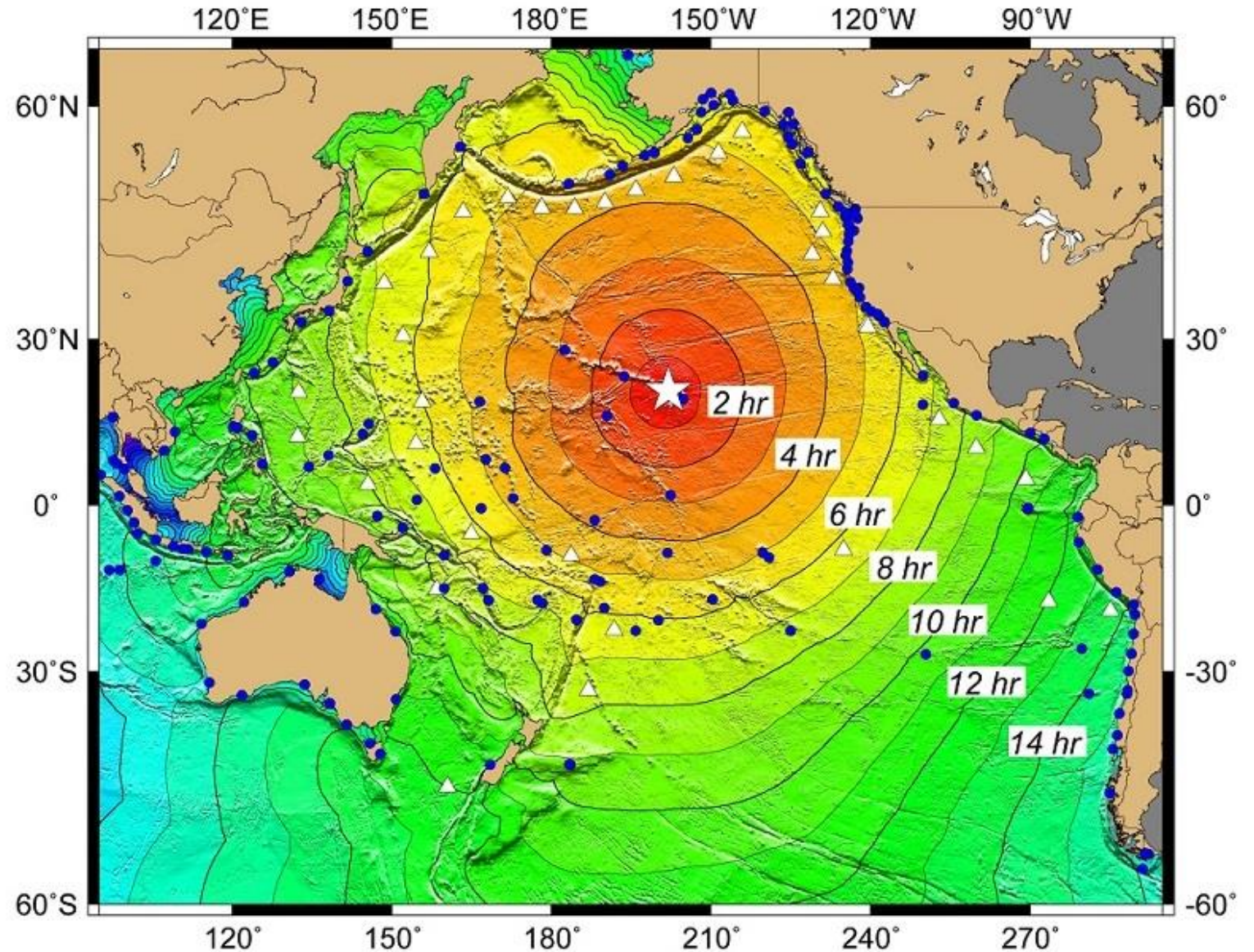


# Distant Tsunami Response - How long do I have to evacuate?

## Distant Tsunami

- Generated far from the Hawaiian Islands.
- Estimated times that waves will reach Hawai'i for tsunamis generated in various locations worldwide.

EQ Location		Travel Time to Hawai'i
Distant Tsunami	Alaska	5 hours
	U.S. West Coast	5 hours
	Japan	7 hours
	South Pacific	7 hours
	Chile	14 hours

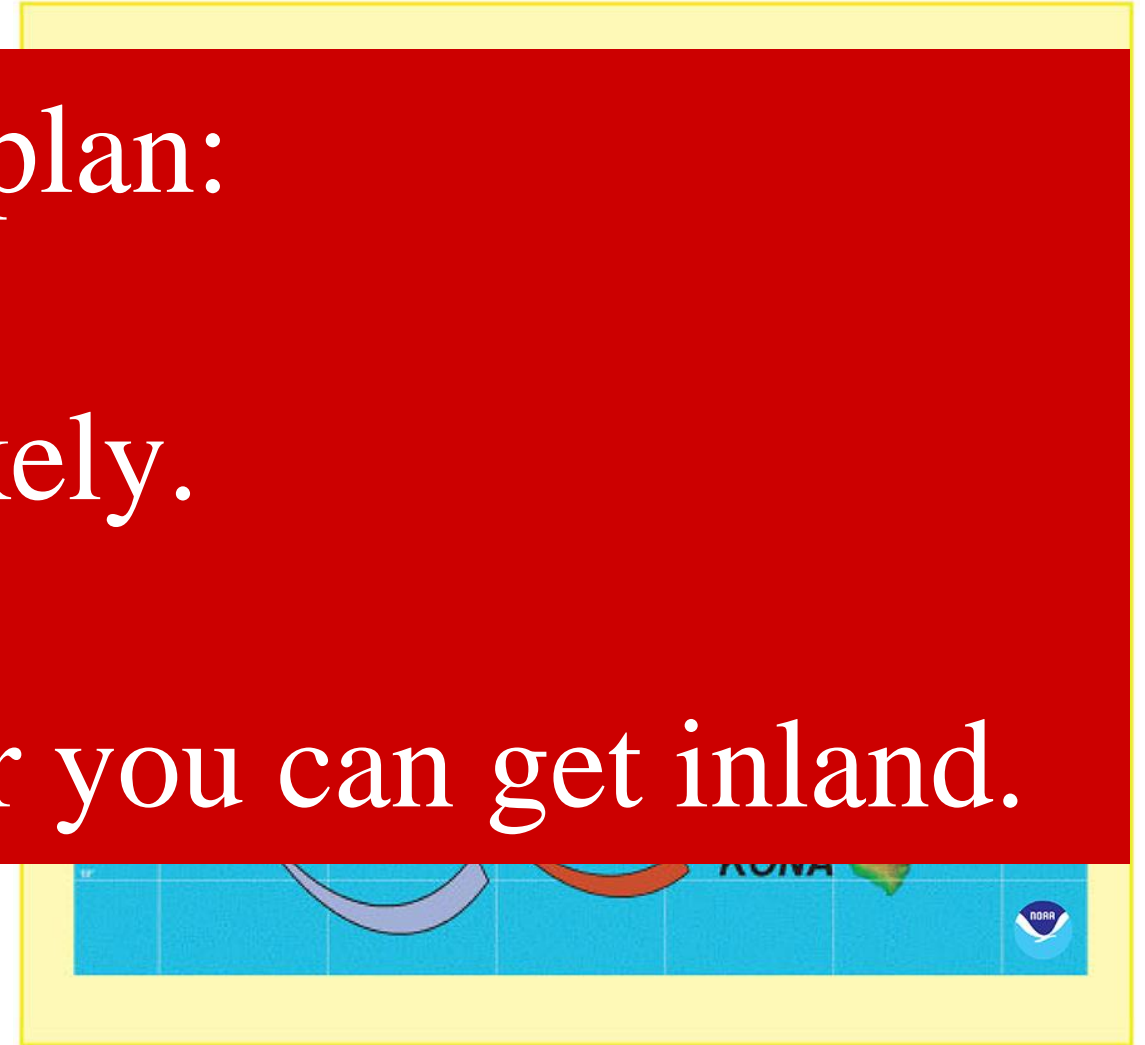
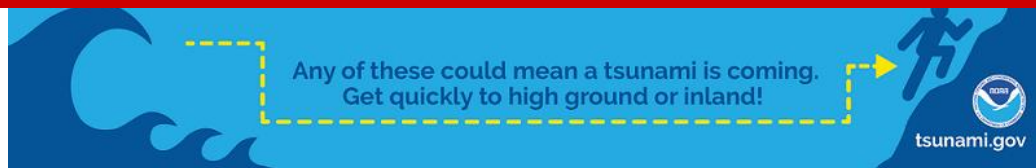


# Local Tsunami Considerations

- Generated by an earthquake on or near Hawaii Islands

## Your plan:

- Little to no warning.
- Traffic jam? Most likely.
- Plan to go on foot.
- How fast and how far you can get inland.



# Tsunami Alerts - Activating the Emergency Operation Center

The Pacific Tsunami Warning Center (PTWC) alerts county and state warning points of a tsunami threat.

Any tsunami watch, advisory, or warning triggers the activation of the City EOC; the EOC will send an alert and notification to EOC stakeholders

When activated, DEM is responsible for:

1. Alerting and warning the public
2. Coordinating response activities and resources, and, when required,
3. Accomplishing an efficient and timely evacuation of tsunami hazard areas.



Tsunami Information Bulletin



Tsunami Watch



Tsunami Advisory



Tsunami Warning



Urgent Local Tsunami Warning

• Not Activated

EOC STATUS



• Activated

EOC STATUS





# Tsunami WATCH Actions



## Tsunami Watch

- Tsunami is possible; Threat being evaluated
- Be prepared to act
- Earliest wave arrival is 3+ hours away



Stay informed. Monitor radio, TV, or official online and official social media sources for the latest updates.



A Watch can be upgraded to a Warning, an Advisory, or canceled. During a Watch, you should be prepared to evacuate immediately if a Warning is issued.



Every business should have an emergency plan in place, including a specific protocol for tsunami events. Activate the plan as soon as the Tsunami Watch is issued and ensure all employees know their roles and responsibilities.



Notify employees and customers on the property of the Tsunami WATCH.



If you have limited transportation access – plan to evacuate sooner.



NWS will activate the Emergency Alert System (EAS) and broadcast the Tsunami Watch information over local TV and radio.



# Tsunami ADVISORY Actions



## Tsunami Advisory

- Waves will create dangerous conditions in and near water
- Stay out of beach areas and away from waterways



Tsunami ADVISORY issued for hazards primarily to shoreline coastal areas.

**STAY OUT  
OF WATER**

Keep employees and visitors off beaches and out of the water until notified that it is safe to return.



# Tsunami WARNING Actions



## Tsunami Warning

- Destructive tsunami waves expected to impact low-lying coastal areas
- Move to higher ground, inland, or >4<sup>th</sup> floor in bldgs. 10+ stories



Take the warning seriously. Businesses must consider this warning as a high-level threat and act promptly. **DON'T WAIT TO EVACUATE.**



The Honolulu Police Department (HPD) is responsible for setting up roadblocks to direct vehicles from the evacuation zone. Only first responders assisting with the evacuation will be allowed access.



Use all available means of communication to promptly notify employees and customers about the tsunami warning and the need to evacuate.



DTS/The Bus will maintain regular routes and transport people from coastal tsunami zones to "YELLOW" or "GREEN" evacuation areas depending on the event. Passengers may bring one carry-on bag. Pets are permitted on a leash or in a carrier/crate. Evacuation buses stop one hour before the wave arrives.



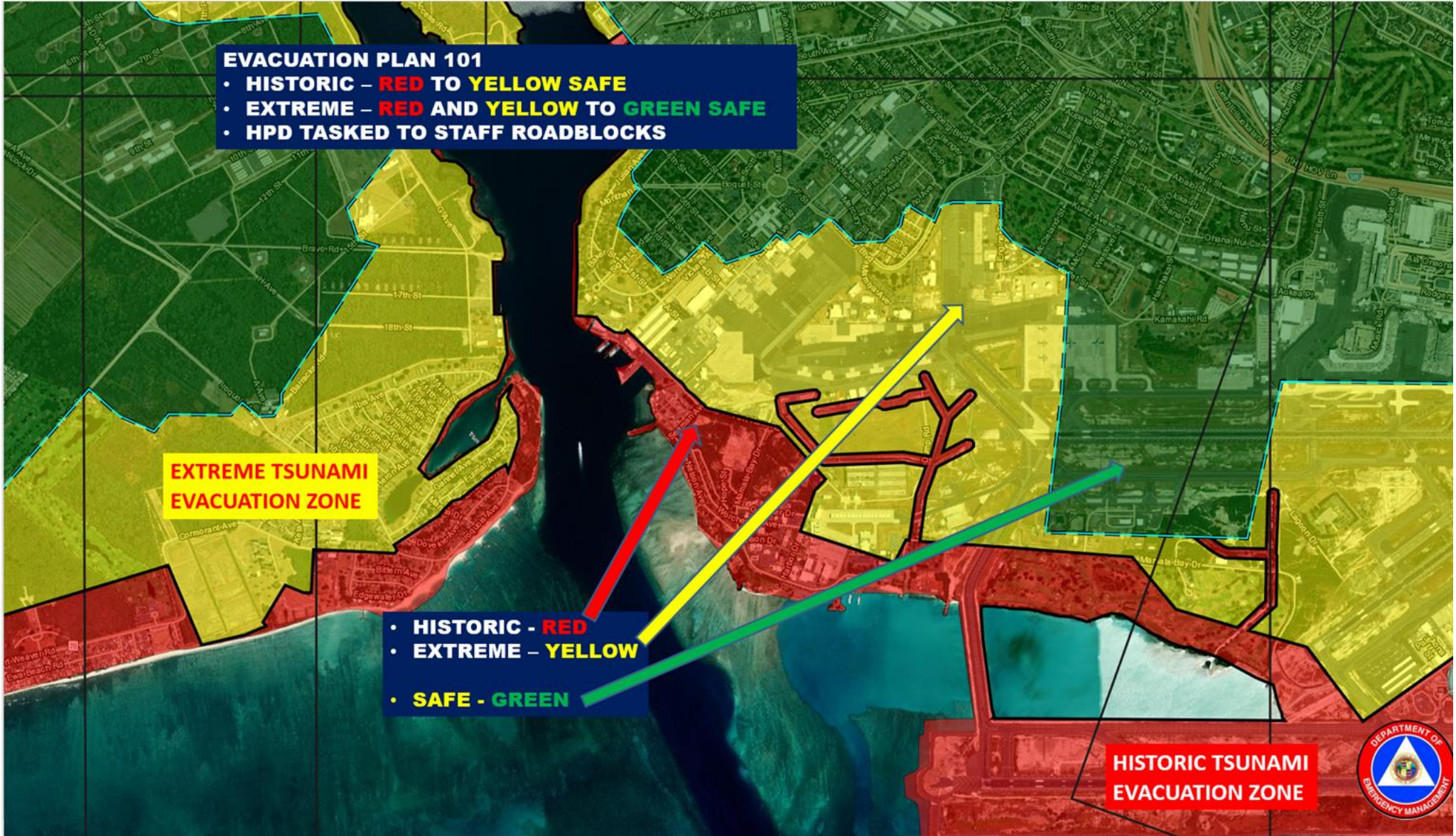
Know where you are going. You are considered safe when you have reached the **YELLOW** or **GREEN** for a Tsunami Evacuation or **GREEN** for an Extreme Tsunami Evacuation.



3 hours prior to wave arrival, outdoor warning sirens will sound (three-minute steady tone). If you are in an evacuation zone, leave as quickly as possible. If you are not in an evacuation zone, stay where you are and stay off the road.



# Know Your Zones



# Destructive and Non-Destructive Tsunami Actions

A tsunami may be destructive or non-destructive. If the tsunami were destructive, emergency search and rescue operations would immediately start on land and at sea. It is essential to wait for official messaging that an area is safe, and re-entry is allowed. Following a tsunami or a Tsunami Warning, here are some things to be aware of:

## Tsunami waves may keep coming

- For hours
- Arriving every 10 minutes to one hour apart.
- The first wave may not be the largest.
- Once on land tsunami waves can move as fast as 30 mph

## A Cancellation is different than an All-Clear message.

- A cancellation is issued by the Pacific Tsunami Warning Center for the State of Hawai'i after an evaluation of water-level data confirms that a destructive tsunami will not impact an area under a warning, advisory, or watch or that a tsunami has diminished to a level where additional damage is not expected.

An "All-Clear" is issued by DEM only after first responders have confirmed that coastal and shoreline conditions for O'ahu no longer pose a threat.

Coastal tsunami impact areas could be flooded, debris from structures may block roads and highways, and major utilities disrupted for days to weeks or longer. Be aware that you may be unable to return to coastal areas for hours or days. The public cannot re-enter these areas until it is safe.

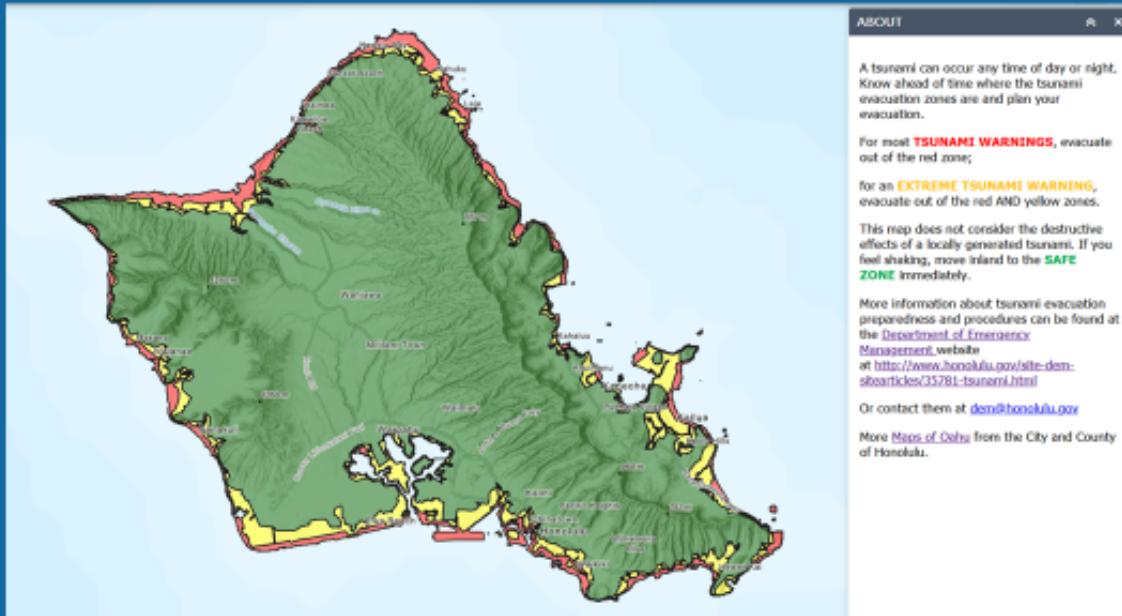
It's essential to stay informed. Check local radio/TV stations, HNL.info, or NOAA Weather Radio for emergency information regarding safety and disaster assistance.



# Know Your Zones

## PREPAREDNESS: KNOW YOUR TSUNAMI EVACUATION ZONES

If your **tsunami** preparedness plan calls for evacuation, **know your zones**:



### Oahu Tsunami Evacuation Map



[www.honolulu.gov/tsunamievac](http://www.honolulu.gov/tsunamievac)



# Where Do I Evacuate?



**In case of a Tsunami Warning,  
move inland or go to the 4th floor  
or above in a building at least  
10 stories or taller**

## Vertical Evacuation

If you are near the shore and cannot quickly walk or drive out of an evacuation zone, Vertical Evacuation is an option that could save your life. To vertically evacuate, proceed to the fourth floor or higher of a building that is 10 stories or taller.

## Inland Evacuation

The most important thing during a Tsunami Warning is to get out of the evacuation zone as soon as possible. Anywhere outside the evacuation zone is a safe place. If possible, make plans to evacuate to a family member or friend's home who lives outside the evacuation zone. During a Tsunami Warning, car traffic may be heavy and can cause delays, so plan to walk to a safe location if possible.



# Not in a Tsunami Evacuation Zone?

## Not in a Tsunami Evacuation Zone?



If you are not located in a tsunami evacuation zone and a Tsunami Warning is issued, stay home and stay off the road. We want to keep roads and highways open for evacuees leaving the coastline and provide emergency access to first responders who will be assisting with the evacuation.



# Questions?

