



HOW TO PREPARE YOUR BUSINESS FOR THE NEXT

TSUNAMI

A Guide for Businesses in the Hawaiian Islands

This guide is a product of the *Tsunami Education, Preparation and Recovery Project for Downtown Hilo*; An innovative partnership between the Pacific Tsunami Museum and the Hawai'i County Department of Planning.





What You Need to Know About the Tsunami Hazard

Tsunami facts:

- *Tsunami* is a Japanese word closely translating to 'harbor wave'.
- Tsunamis are not caused by tides and are not tidal waves.
- Tsunamis can happen during the day or night at anytime of the year.
- You cannot surf tsunami waves.
- Tsunamis are generated as a result of water displacement usually triggered by a seismic event (i.e. earthquake).
- Tsunamis may travel at speeds ranging from 450 to 500 miles per hour.
- Tsunamis are a series of waves that may impact coastlines for several hours.
- Tsunami waves can come ashore in many different ways among which are: a wall of water (resembling white wash), a rapidly rising tide, a series of surf-like breakers, etc.
- Tsunamis have occurred frequently in the Pacific Ocean as the Pacific is surrounded by deep ocean trenches prone to large earthquakes that trigger tsunamis.
- In Hawai'i, tsunamis have killed more people than hurricanes, earthquakes and volcanic eruptions combined.
- Hawai'i is long overdue for a tsunami (based on frequency of historical events).

Hawai'i is at risk from two types of tsunamis:

- Distant tsunami – which will take several hours to reach Hawai'i.
- Locally generated tsunami – which may arrive onshore in seconds to minutes.

The natural warning signs of a tsunami:

You should familiarize yourself with the natural warning signs of a tsunami:

- **An earthquake**
- **Water receding**
- **Water surging inland**
- **A strange sound coming from out to sea (survivors say the sound is like a loud roar)**

An earthquake may not be your first warning sign of an impending tsunami, so if any of the other signs are present you should exercise caution and move inland and uphill immediately.

Other indications that a tsunami may be imminent:

One way Civil Defense Agencies will alert the general public of an impending tsunami is through the Emergency Alert System (EAS). All means of alerting the public will be used, including police, fire fighters, Civil Air Patrol, lifeguards, Coast Guard, and others. The EAS is controlled and maintained by local Civil Defense Agencies.

- **A steady siren blast (tested at 11.45 a.m. on first working day of month)**
- **Radio/television/loud speaker announcement**

The History of Hilo Businesses and Tsunamis

Tsunamis have had an enormous negative impact on businesses in and around Hilo, causing millions of dollars in damage and repeatedly harming the local economy. The businesses in downtown Hilo that we see today are only a fraction of the thriving merchant community that once stretched from the Wailuku River to Hilo Harbor.

Over fifty businesses were once situated along the stretch of Kamehameha Avenue from Mamo Street to the old Hilo Iron Works; many were destroyed during the 1946 tsunami. The 1960 tsunami caused the greatest devastation in old Waiākea Town, an area covering the Waiakea Peninsula, which was densely packed with shops, theaters, and restaurants. Waiakea Town was literally destroyed overnight.

Most business owners found it extremely difficult to recover from these devastating events. However, one business endured four tsunamis, each time reopening with perseverance and determination to succeed, the business was Café 100.

The Café 100 Story



Café 100 damaged after the 1946 tsunami.

Café 100 is the namesake of the 100th Infantry Battalion, that owner, Richard Miyashiro, served with during WWII in Italy. The café first opened its doors on January 21, 1946, and was located on the corner of Kamehameha Avenue and Manono Street. Starting as a popular hangout for fisherman and local Waiākea Town boys, Café 100's clientele quickly grew over the following months.

On April 1st, 1946, just a little over two months after the café opened, tsunami waves from the Aleutian Islands came roaring into Hilo Bay with wave heights reaching 30 feet at various locations in the Hilo area. The café sustained flooding and some structural damage, mainly due to other buildings and debris being carried into it by tsunami waves.

The café also withstood the tsunamis of 1952 and 1957 that caused minor water damage to buildings along the waterfront.

“Overnight, more than half, two thirds of the [Mamo Street] businesses were gone”.

Donald Amano, 2007(Amano Fishcake Store)

After a 14 year run at their Kamehameha Avenue location, the Miyashiro family decided to take out a loan and build a new Café 100 just across the road. This new facility was much larger and could seat 200 people. The building was completed and the Café was decorated with flowers for the grand opening on May 2nd, 1960.



The new Café 100 early May 1960.

Just three weeks later, on May 23rd, 1960, a tsunami from Chile completely destroyed the facility. The family remained determined to continue their business and after a two year recovery period, reopened Café 100 again in its current location at 969 Kīlauea Avenue. Café 100 is still currently located in the tsunami evacuation zone. However, after enduring four tsunamis, the Miyashiro family is prepared for the next tsunami.

“If you have prepared your business for the next tsunami, you have a better chance of recovering than a business that has not.”

Donna Saiki, 2008, Pacific Tsunami Museum



Café 100, August 24, 1962 in its current location at 969 Kīlauea Avenue



Preparing Your Business for a Tsunami Event

There are two important factors to consider when preparing for a tsunami: location and primary risk. By assessing your existing risk, based on what has happened in the past, you can consider all the factors that may have an impact on your business in the next tsunami event.

1) Where is your business located?

Check to see if your business is located within a tsunami evacuation zone. To do this you can check the front of your local telephone book for county-specific evacuation zone maps. You can also visit the NOAA Pacific Services Center website which contains a feature allowing you to search by address: http://www.csc.noaa.gov/psc/project_pages/tsunami.html. County Civil Defense Agencies may also post tsunami evacuation maps on their websites and at their offices.

The tsunami evacuation zones are based on how far inland past tsunamis inundated.

“It really took its toll, because the fish market was about fifty yards from our store, all of it was gone. No more open fish market, and the store right next to that was demolished and they were not able to reopen at all. We were fortunate enough that at least my dad could reopen the store for business.”

Laura Chock, 2007(Hawaii Chicken Store)

2) What is your primary risk?

The size of your business should not be a primary factor in determining the course of action needed to prepare your business for a tsunami; however, identifying your primary risk (which is usually a reflection on the size of the business) is a good way to begin thinking about how to customize your preparedness and evacuation procedures.

Businesses/entities such as restaurants, theaters, museums, schools, markets and large offices or factories that contain large numbers of customers/staff/vendors should focus preparatory measures on preventing a tsunami from causing loss of life.

During the warning for a distant tsunami there should be ample time for everyone on the premises to evacuate safely. Conversely, a locally generated tsunami dictates a rapid-response that immediately activates a concise and correct response to a large earthquake followed by effective evacuation.

Businesses like boutiques, arts and craft stores, and specialty shops that focus on the sale of items that

may be replaceable, should focus on developing and maintaining an up-to-date list of stock and investigate the types of insurance are available both for stock and irreplaceable items. Businesses such as this need to have a well-thought-out evacuation plan for a distant tsunami and a priority list of items to remove. **In a locally generated tsunami scenario, the main focus for all businesses must be on personal evacuation and the safe evacuation of staff and customers.**

Small offices such as small law firms with one to five staff members and small capacities for customers, should focus on ensuring that all important or original paperwork is copied and kept out of the evacuation zone (personnel records, tax information, client information, etc.), that all digital files are backed-up on a hard drive and kept out of the evacuation zone and that there is an evacuation plan for both distant and local tsunamis.

Businesses with any potentially hazardous stock that may be an environmental or human threat in the event of a tsunami should contact the appropriate authorities to prepare a necessary plan of action for a tsunami.

“It was a crushing blow to see Mamo Street as nothing, just rubbles.”

Ernie Kurohara, 2007 (Kurohara Tailor store)



The 1946 tsunami inundates the Kamehameha Avenue/Kalakaua Street intersection.

How to Create an Evacuation Plan for a Locally Generated Tsunami

In a locally generated tsunami scenario there may not be time for sirens or an official warning. Even if there is an official warning, there may only be time to evacuate yourself, your staff, and customers. It is possible that your only warning of a potential local tsunami will be experiencing one of the natural warning signs, such as an earthquake.

Be sure to include an appropriate response to a large earthquake in your locally generated tsunami plan. If you are down at sea-level and a large earthquake occurs you should immediately move to high ground. If you are in a reinforced concrete building, this could mean moving to the highest floor possible. Do not wait for sirens or other official warnings as there may not be time.

Locally generated tsunamis can be very deadly and arrive onshore in seconds to minutes. There may not be time for sirens to be activated, so be aware of the natural warning signs of a tsunami.

Using an evacuation zone map, mark the location of your building and determine the quickest, safest route to higher ground, which, as previously stated could be the highest floor in a reinforced concrete building. You should remember that the quickest route inland may not always be the safest and you should be familiar with several different routes to safety in case an incident occurs that prevents you from evacuating via your primary route.

You should post the evacuation route at the exit(s) of your business and train staff on evacuation procedures.



Evacuation procedures posted near exits at the Pacific Tsunami Museum.



How to Create an Evacuation Plan for a Distant Tsunami

In the event of a distant tsunami, there may be time to evacuate priority items from your business to a safe location. The extent to which this can be done depends greatly on how much time there is until the first tsunami wave is expected and the amount of traffic surrounding your business. The EAS and other forms of notification will be activated as soon as confirmation of tsunami warning is received. Once out of the evacuation zone, you will not be allowed to re-enter the area until the all-clear is announced.

Preparedness is the key to safe and efficient evacuation as well as reducing damage potential. The following steps may be used as a guideline:

-Regularly back-up important data. Portable external hard drives are now affordable, light, and easy to quickly remove and transport. An entire system can usually be backed up on to a single drive and your computer can be configured to run regular weekly data back-ups.

-Copy original documents. Original documents such as personnel records, tax information, legal documents, warranties etc. should be copied and kept in a safe location out of the tsunami evacuation zone.

Remember:

- Cell phone and fixed telephone networks may be saturated during a tsunami watch/warning due to the high volume of calls. Have a plan with your family/staff that does not involve calling each other.
- There may be heavy traffic from other business owners wanting to evacuate stock so be prepared for traffic congestion and allow adequate time to evacuate.

-Mark items for removal. If you do have time to remove items from your business, you will save a lot of time if you have already sorted through, prioritized, and marked items for removal. You could use colored stickers or markers on items for removal. Additionally, you can make a list of items for removal with the name of the person responsible for their removal and safekeeping.

-Inventory all stock and equipment. Regularly inventory all stock and equipment as well as update stock/equipment provider details. Having all of this information on hand (and safely out of the evacuation zone) will substantially help you to get back on your feet again after a destructive tsunami. You may also wish to videotape/photograph your premises for insurance purposes.

-Display your plan and train staff. Once you have developed a plan for both distant and locally generated tsunamis, display your plan near to the business exits and train your staff on the evacuation procedures for both scenarios.



-Prepare for an earthquake. As a large earthquake may be phase one of a tsunami event, you should prepare for an earthquake while preparing for a tsunami. Walk through your business and take measures to ensure that falling debris will be kept to minimum.

-Know how to 'shut down'. Secondary disasters such as fire can be caused as a result of an event such as an earthquake. When developing an evacuation plan know how to shut everything down (gas, water, electricity) so that you do not increase the risk to your property from these potential hazards.

-Create and maintain an evacuation Kit. These can be useful in any emergency situation.

Take Care of Yourself – Take Care of Others

The most important thing to remember when preparing for a tsunami, or indeed any hazard, is that you, and only you, are responsible for your own personal safety. Studies of the actions of Hilo residents during the 1960 tsunami indicate that a large number of people who heard the siren that meant 'evacuate immediately', stayed put and waited for further instructions. If you experience any of the natural warning signs of a tsunami, or you hear a siren or announcement to evacuate, then evacuate immediately; do not fall into the 'wait and see' group. If you live outside of the tsunami evacuation zone but have friends in the evacuation zone, set up a plan ahead of time to host them at your safe location until the all-clear is given.

"I'll tell people that they better not look at the tsunami; running away from the tsunami would be wise, just wise."

Bing Kow, 1946 tsunami, O'ahu

The Tsunami ‘Business’ Buddy System

You should not assume that emergency personnel will be available to help everyone who needs assistance during a tsunami evacuation emergency.

Although the Tsunami Buddy System was designed as a residential neighborhood program in Oregon, it has since been applied in communities around the world, and can be just as easily applied to the business community. The Buddy System was designed for members of a community to take care of those needing assistance during a tsunami evacuation by:

- 1) Identifying persons in the community who need help getting out of the evacuation zone to a safe area.
- 2) Assigning a responsible “Buddy” who lives/works nearby to help their neighbor/family member/colleague, who needs assistance to evacuate.



Tsunami Buddy System

There are a number of situations where people may need assistance:



- An elderly person may not be able to move quickly enough on their own.
- A parent with several young children could have trouble getting them all to safety without help.
- Someone with a physical or mental disability may need assistance.
- If you know of someone who might have difficulty evacuating during a tsunami, try to match them up with a “buddy.”

The Tsunami Buddy System can also be applied to the customers of your business to ensure their safety by assisting them in safely clearing the evacuation zone.

Training your staff in safe evacuation procedures for customers may help to ensure that everything goes smoothly during a real event. Your tsunami ‘Business’ Buddy plan should address the needs of customers and staff with a wide range of disabilities and mobility issues.



Disaster Evacuation Kits and Responding to a Tsunami

When a disaster strikes it is crucial to be self-sufficient. You should be able to take care of yourself and those around you for what could be several weeks, so you should ask yourself, “What can I **not** go without for two weeks?” and “What would be nice to have if a disaster struck?” Answering the first question is easy; these are your basic human needs and these can be found in section one of the disaster kit below. Answering the second question is a little harder considering we do not know when, where or how the next disaster will strike, so we should think carefully about items that would substantially benefit you to have during a disaster, and examples of these items can be found in section two of the disaster kit.

In a tsunami situation, the most important thing to do is protect yourself and the lives of others. The second most important thing is to ensure awareness of things you need to do the first thing. That includes knowing the evacuation area and signs for evacuation.

Mayor Harry Kim, 2008

Disaster Kit – Section One

- 1) Water and water treatment tablets/drops/purification pump (store one gallon per person, per day)
- 2) Non-perishable food and manual can opener
- 3) Medicines/Prescriptions (Ask your physician or pharmacist about storing prescription medications)
- 4) Sanitary items and items for babies
- 5) First aid kit

Disaster Kit – Section Two

- 1) Flashlight/tools/waterproof matches and extra batteries
- 2) A battery powered or crank radio
- 3) Bedding and clothing
- 4) Important papers/documents (birth certificate/passport/D.L. etc.) store in waterproof container
- 5) Cash
- 6) Sunscreen
- 7) Map of the area/island

For more information on
Disaster Evacuation Kits go to:
www.redcross.org

Having knowledge in first aid techniques can sometimes mean the difference between life and death. Community response programs such as the Community Emergency Response Team (CERT) can be an excellent way to inform yourself and build a support network of other community members and perhaps other business owners in a similar situation as you. www.citizencorps.gov



Recovering From a Destructive Tsunami

The ability to recover from a destructive tsunami will depend entirely on the extent of damage that has occurred and the amount of advance planning and preparation you have done. Immediately following a destructive tsunami, rescue and safety-related operations in the disaster zone will take precedence over other activities and it may be some time before business owners and residents are allowed back to their homes and businesses in the inundated area.

There are things you can do ahead of time to ensure that, should your business sustain damage, the amount of time it will remain closed can be minimized. Remember, there may not be easy access to the information listed below following a tsunami, so doing your research BEFORE the event occurs will ensure that you have all the information at hand to get the business back up and running quickly.

“Disaster Recovery Begins Before the Disaster.” American Red Cross, 2008

Become familiar with agencies such as the Federal Emergency Management Agency (FEMA) and the U.S. Small Business Administration who may administer disaster assistance funds/loans following a tsunami. www.fema.gov

- 1) Check out information on organizations such as the American Red Cross who respond immediately to disasters. www.redcross.org
- 2) Understand the process of obtaining disaster assistance funds and loans and be clear on your eligibility and what essential paperwork you must have in order to file a claim.
- 3) Keep an up-to-date inventory of stock so that you will be able to quickly and concisely list items lost/damaged.
- 4) The more comprehensive your recovery plan is, the quicker you will be up and running again following a destructive tsunami and, with other businesses doing the same, the quicker the local economy will stabilize following the disaster.
- 5) Unfortunately, most insurance policies do not cover damage from tsunamis. If tsunami insurance is something that you are interested in learning more about, talk to your insurance agent. Although insurance varies dramatically on a case-by-case basis, it appears that in the United States some programs like FEMA’s National Flood Insurance Program (NFIP) may include water damage from tsunamis (and hurricanes) in their policies. For more information contact the NFIP.

In the event of a destructive tsunami, the local civil defense agency will work with state and federal authorities to provide all the assistance necessary for the various programs available.

www.floodsmart.gov/floodsmart/



Checklist

Please use this list to check off tasks that you have accomplished in preparing your business for the next tsunami.

- Check the location of your business in relation to the tsunami evacuation zone.
- Determine the primary risk of your business or entity.
- Back up all digital files onto a removable hard drive and keep out of evacuation zone.
- Make copies of (and scan where possible) all important original paperwork and keep copies outside of the evacuation zone.
- Mark all filing cabinets and files with a sticker indicating those that need to be removed and their priority when there is time for removal of items during an evacuation (distant tsunami).
- Create an evacuation plan. This plan can list the names of those responsible for the removal of items, a staff phone tree, a list of items for removal including the locations of these files and their priority, and evacuation route. Each member of your staff should have a role to play in the removal of items and should keep a copy of this plan with them at home or with a friend out of the evacuation zone. Also, be sure to name an alternate staff member in case of absence of the primary staff member.
- Train staff on how to evacuate themselves and customers to safety during a local tsunami scenario.
- Keep an evacuation kit at your business.
- Determine a meeting place for yourself and your family outside of the tsunami evacuation zone. Ask your staff to do the same.
- Maintain an up-to-date inventory of all your equipment and stock on site and out of the evacuation zone.



FUNDED BY:

COUNTY OF HAWAII PLANNING DEPARTMENT

STATE OFFICE OF PLANNING – COASTAL ZONE MANAGEMENT PROGRAM

A REPORT OF THE COUNTY OF HAWAII SUPPORTED BY THE HAWAII OFFICE OF PLANNING, COASTAL ZONE MANAGEMENT PROGRAM, PURSUANT TO NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AWARD NO. NA07NOS4190079 OR NA06NOS4190159 OR NA05NOS419160 (RESPECTIVELY), FUNDED IN PART BY THE COASTAL ZONE MANAGEMENT ACT OF 1972, AS AMENDED, ADMINISTERED BY THE OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT, NATIONAL OCEAN SERVICE, NATIONAL OCEAN AND ATMOSPHERIC ADMINISTRATION, UNITED STATES DEPARTMENT OF COMMERCE.

THE VIEWS EXPRESSED HEREIN ARE THOSE OF THE AUTHOR(S) AND DO NOT NECESSARILY REFLECT THE VIEWS OF NOAA OR ANY OF ITS SUB-AGENICES.



Guide prepared by Genevieve Cain on behalf of the Pacific Tsunami Museum.

With special thanks to contributors and reviewers: Mayor Harry Kim, Dixie Kaetsu and Quince Mento (Hawai'i County) Dr. Walter Dudley (PTM), George Curtis (PTM), Donna Saiki (PTM), Jim Wilson (PTM) Christian Kay (HCDP), Susan Gagorik (HCDP) Kylie Alexandra (EDH2025), Jeanne Johnston (DPS), Rachel Hall (PTM), Barbara Muffler (PTM), Dr. James Goff (NIWA), Gloria Kobayashi and Gail Miyashiro. 'Be Tsunami Safe' logo courtesy of Connections Public Charter School.

