



Hawaii Hazards Awareness & Resilience Program

Produced by
Hawaii State Civil Defense



HAWAII HAZARDS AWARENESS & RESILIENCE PROGRAM:

GOAL: To enhance community resilience to multiple hazards through a facilitated education and outreach program that promotes hazard understanding and awareness, and offers tools and information resources to guide mitigation, preparedness, response and recovery.




EARTHQUAKE DETECTION AND RESPONSE

Module 2: Detection, Warning & Response

Contents

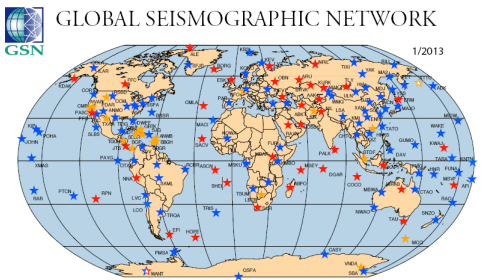
- Earthquake Detection & Monitoring
- What to Expect During an Earthquake
- Earthquake Response Actions



Module 2: Detection, Warning & Response

EARTHQUAKE DETECTION AND MONITORING

Earthquake Detection



GLOBAL SEISMOGRAPHIC NETWORK
1/2013

★ IRIS / IDA Stations ★ IRIS / USGS Stations ★ Affiliate Stations
★ Planned Stations

Earthquake Detection

- The Global Seismographic Network (GSN) is a cooperative international partnership between Incorporated Research Institutions for Seismology (IRIS) and the U.S. Geological Survey (USGS).
- Over 150 GSN monitoring stations located around the world provide data for scientific research, education, earthquake hazard mitigation, tsunami warning, and the international monitoring system for the Comprehensive Nuclear Test-Ban Treaty.

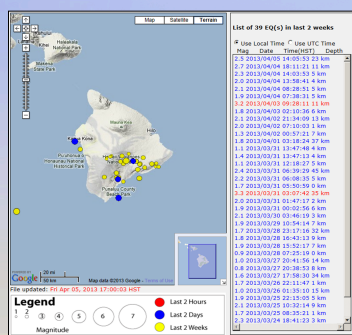
U.S. Geological Survey (USGS)

- USGS: <http://earthquake.usgs.gov/earthquakes/>
 - Reporting of real-time earthquake information by country or region.
 - Historical earthquake information.
 - Interactive maps with details about recent earthquakes.
 - User sign-up for earthquake notifications via email, cell phone, or pager.
 - ShakeMap products (near-real-time ground motion and shaking intensity) following significant earthquakes.

USGS Recent Earthquakes in Hawaii

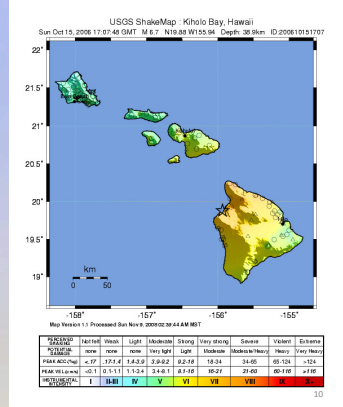
<http://hvo.wr.usgs.gov/seismic/volweb/earthquakes/>

Monitored by the
USGS – Hawaii
Volcano
Observatory



USGS ShakeMap

- The USGS Earthquake Hazards Program provides near real-time maps of ground motion and shaking intensity following significant earthquakes.



Module 2: Detection, Warning & Response

WHAT TO EXPECT DURING AN EARTHQUAKE

What to Expect During an Earthquake

- Things you might see:
 - Hanging plants or lights moving or swaying
 - Things falling off shelves or pictures falling off the wall
 - Cabinets opening and shutting
 - Trees swaying back and forth



Source: Earthquake Country Alliance

What to Expect During an Earthquake


- Things you might hear:
 - Things rattling or banging
 - Things falling off of shelves
 - The building creaking
 - Car alarms going off



Source: Earthquake Country Alliance 13

What to Expect During an Earthquake

- Things you might feel:
 - Scared or confused
 - You may feel a shaking, jolting or rolling motion
 - It may be hard to walk



Source: Earthquake Country Alliance 14



Learning Check

1. Where can you find information about recent earthquakes?
2. What are some things that you can expect during an earthquake?

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Module 2: Detection, Warning & Response

EARTHQUAKE RESPONSE ACTIONS

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Immediate Response Actions

- If you are **Indoors**:
 - **DROP, COVER, AND HOLD ON**
 - Drop to the floor, take cover under a sturdy desk or table, and hold onto it firmly.
 - Alternatively, drop to the floor against an interior wall and protect your head and neck with your arms.

Source: Southern California Earthquake Center, USC 17



Protect Yourself. Spread The Word.


 Earthquake Country Alliance
 earthquakecountry.org

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Immediate Response Actions

- If you are **In Bed**:
 - Hold on and stay there; protect your head with a pillow.
- In a **Wheelchair**:
 - Lock the wheels once you are in a safe position. If unable to move quickly, stay where you are. Cover your head and neck with your arms.

Source: Southern California Earthquake Center, USC

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Immediate Response Actions

- If you are **Outdoors**:
 - Move to a clear area if you can safely do so; avoid power lines, trees, signs, buildings, vehicles, and other hazards.
- If you are **Driving**:
 - Pull over to the side of the road and stop and set the parking brake. Avoid overpasses, bridges, power lines, signs and other possible hazards. Stay inside the vehicle until the shaking is over. If a power line falls on the car, stay inside until a trained person removes the wire.

Source: Southern California Earthquake Center, USC

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Immediate Response Actions

- If you are in a **High-Rise**:
 - Drop, cover, and hold on. Avoid windows and other hazards. Do not use elevators. Don't be surprised if sprinkler systems or fire alarms activate.
- If you are in a **Stadium or Theater**:
 - Remain at your seat and protect your head and neck with your arms. Don't try to leave until the shaking is over. Then walk out slowly watching for anything that could fall in the aftershocks.

Source: Southern California Earthquake Center, USC

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Immediate Response Actions

- If you are **Below a Dam**:
 - Dams can fail during a major earthquake. Catastrophic failure is unlikely, but if you live downstream from a dam, you should find out where possible inundation may occur and have an evacuation plan prepared .

Source: Southern California Earthquake Center, USC

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Immediate Response Actions

- If you are **At The Beach**:
 - Move to higher ground immediately.
 - If you are unable to evacuate, and have access to a concrete and steel reinforced building that is six stories or more in height, move to a location on the third floor or higher.

Source: Hawaii Homeland Security & Public Health

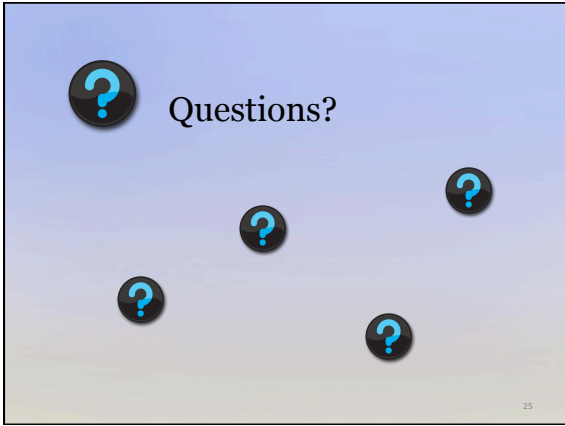
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Learning Check

1. What are immediate reactions you should take during an earthquake?
2. What should you do if you are on the beach and an earthquake occurs?

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MAHALO

The Hawaii Hazards Awareness & Resilience Program (HHARP) is the result of a collaborative partnership between Hawaii State Civil Defense and the Pacific Disaster Center.

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