



Building Media Partnerships for Education, Mitigation, and Response

Nezette Rydell

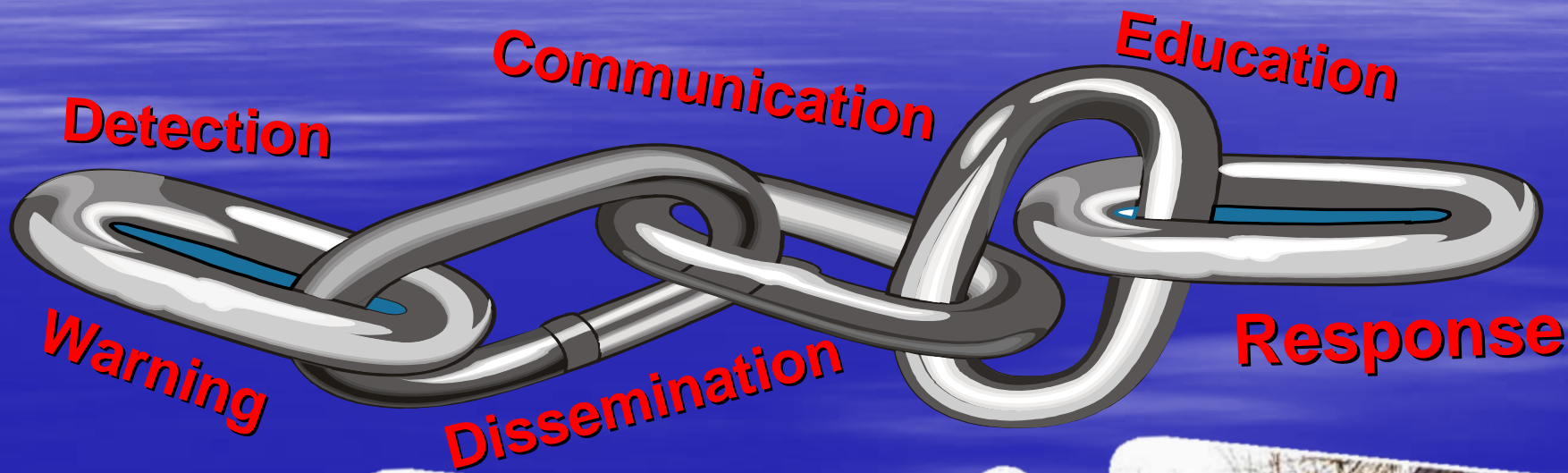
Warning Coordination Meteorologist

National Weather Service Honolulu, Hawaii, USA

The Warning Process

- Detection
 - Recognize the hazard
- Warning
 - Alert others to the hazard
- Dissemination
 - Deliver the warning to those who need to know
- Communication
 - Describe, discuss, and confirm the warning
- Response
 - Action to save lives and protect property

Warning → Response



Warning

Dissemination

Response



The Warning - Response Chain

- The benefit of any warning is limited by the weakest link in the chain
- A warning system has to address each link
- Media partners are critical links in the chain between warning and response
- The links have to be constructed before we can put the chain to work.

Sociological Aspects of Warnings

- Hearing
- Comprehension
 - Understand what the warning says and what it means
- Confirmation
 - Believe the threat is real. Often wait/look for secondary source.
- Personalize
 - What does this mean for me?
- Trust the messenger
 - Credibility arises when warning information is correct and consistent among sources
- Action

Why Media Partners ?

- Media personnel are experts in communications
- Media can provide the communications link between science experts and communities
- Media are crucial for rapid dissemination of warnings
- Media can relay, interpret, and supplement warning information from the warning center
- Media can localize the preparedness and warning message for individual communities

Forging The Links

– Warning Center

- Meet your media partners and get to know them before an emergency
 - Exchange contact information, invite them to visit the office and meet your staff, establish a working relationship
- Educate media partners about the hazard
 - Provide scientific information
 - Provide detailed warning process information including desired responses and outcomes
 - Workshops, pamphlets, brochures, flyers, handouts

Forging The Links

– Warning Center

- Include media partners in practice drills
 - Interagency drills, dissemination tests, emergency communications, coordination calls
- Anticipate the story
 - Create/provide background video and canned interviews with scientists for later use
 - Coordinate who will be knowledgeable and available able to speak with media during an emergency
- If experts don't provide information in an emergency, others will

Forging The Links

– Media Partners

- Contact, meet, and coordinate with warning personnel and science experts before an emergency
- Learn about hazards and the warning process
- Educate the larger public audience about hazards
 - Print and broadcast features about hazards
- Educate the larger public audience about the warning process
 - Stories about the warning process, safety tips

Forging The Links

– Media Partners

- Create background video and interviews for later use
- Sponsor local reference materials for the public
- Use similar events in other parts of the world as an opportunity to inform and educate about local hazards and preparation
- Seek out local stories and interview opportunities
- Repeat the preparedness and safety messages at every opportunity

Print and Broadcast Media Roles





When a Warning is Issued

- National Weather Service issues a warning
- Warning is disseminated to state and local governments, emergency responders, television and radio, web sites, news wires, All Hazards Radio
- TV and Radio stations relay warning, add background information, remind listeners of safety rules and desired actions
- TV and Radio stations update information as the hazard continues and repeat warnings and messages as appropriate
- Print, TV and Radio provide summary of event and impact



NWS Honolulu Media Partners

- Six state-wide television stations
- Two state-wide newspapers
- Ten local newspapers
- Four specialized local publications
 - Hawaii Fishing News
 - Pacific Business News
- Eighteen radio stations
- Reporters, Producers, News Directors, Station Managers
- News Wire Stringers – AP, UPI, Reuters
- Corporate/Utility Company Public Relations Staff
 - Billing inserts, Phone Books



Hawaii Media Information

Daily Newspapers

Honolulu	The Honolulu Advertiser	http://www.honoluluadvertiser.com/	Jan Tenbruggencate	973-5275
Honolulu	The Honolulu Star-Bulletin	http://www.starbulletin.com/	Helen Alton	973-5275
Hilo	Hawaii Tribune-Herald	http://www.hilohawaiitribune.com/		
Kailua-Kona	West Hawaii Today	http://www.westhawaii.com/	Travis Loop	973-5275
Lihue	Garden Island	http://www.kauaiworld.com/	Lester Chang	973-5275
Wailuku	Maui News	http://www.mauinews.com/	David Hoff	973-5275

College Newspapers

Brigham Young Hawaii (Lai)	Ke Alakai	http://www.byuh.edu/kealakai/		973-5275
Hawaii-Manoa	Ka Leo O Hawaii	http://www.kaleo.org/	Matt Sitkowski	973-5275

Other Newspapers

Kaneohe	Midweek	http://www.midweek.com/	Don Chapman	973-5275
Lahaina	Lahaina News	http://www.lahainanews.com/		973-5275
Makawao	Haleakala Times	http://www.haleakalalimes.com/		973-5275
Maunaloa	The Molokai Dispatch	http://www.aloha.net/~mkkdisp/	Yogesh Simpson	973-5275
Oahu	North Shore News	http://www.northshorenews.com/		973-5275
Honolulu	Downtown Planet	http://www.downtownplanet.com/	Kalowena Komeiji	973-5275
Honolulu	Honolulu Weekly	http://www.honoluluweekly.com/		973-5275
Honolulu	Pacific Business News	http://www.amcity.com/pacific/	Howard Dycuss	973-5275
Waikiki	The Waikiki News	http://www.waikikinews.com/	Alvin Koo	973-5275
Hawaii Fishing News		http://www.hawaiifishingnews.com/	Chuck Johnson	973-5275

Hawaii Television

Channel 2 Fox	KHON	http://www.khon.com/	Ron Mizutani	973-5275
Channel 4 ABC	KITV	http://www.kitv.com/	Justin Fujioka	973-5275
Channel 9 CBS	KGMB	http://www.kgmb.com/	Guy Hagi	073-5275
Channel 11 PBS	KHET	http://www.khet.org/		



NWS Honolulu Hawaii

Media Outreach

- Hurricane Preparedness Conference during National Hurricane Awareness Week each May
- Winter Weather Media Conference each fall
- Tsunami Awareness Month each April
- Press Releases on noteworthy developments year round
- Phone and video interviews on request year round
- E-mail or phone with updates to science or technology or new staff year round



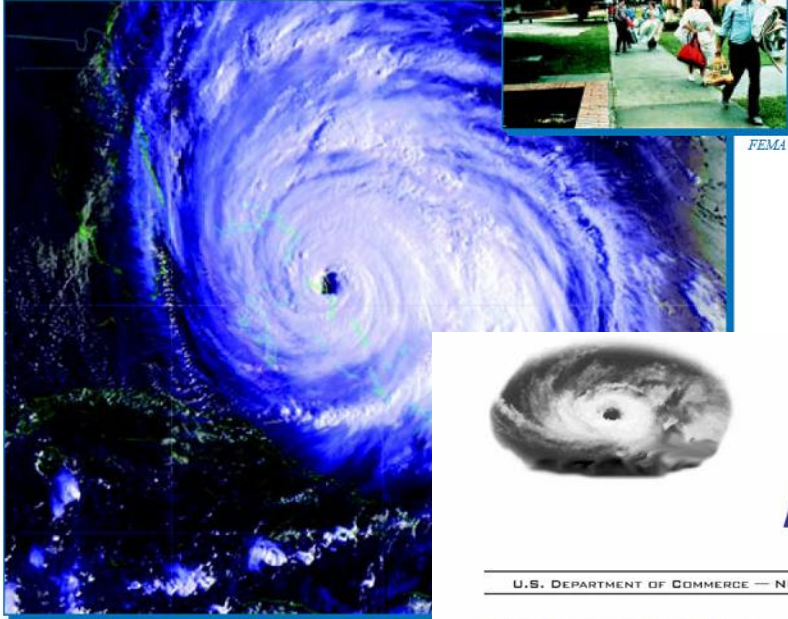
NWS Honolulu Media Press Kits

- Camera ready print and electronic versions of handouts
- Science information on the hazard
- Detailed local impacts
- Description of warning process
- Examples of warnings and statements



hurricanes...

Unleashing Nature's Fury



A PREPAREDNESS GUIDE

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

Revised August 2001



NEWS FROM NOAA
NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION • US DEPARTMENT OF COMMERCE

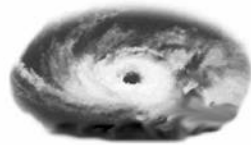
Contact: Nezette Rydell
(808) 973-5275

NOAA06-R
FOR IMMEDIATE RELEASE
May 22, 2006

NOAA EXPERTS ANNOUNCE CENTRAL PACIFIC HURRICANE SEASON OUTLOOK

Governor Lingle Declares Hurricane Preparedness Week in Hawaii

The National Oceanic and Atmospheric Administration's (NOAA) Central Pacific Hurricane Center (CPHC) in Honolulu expects two to three tropical cyclones in the Central Pacific basin in 2006, a slightly below average season. In a typical year, four will form or cross into the area according to National Weather Service forecasts, with two of them reaching hurricane intensity.



The Naming of Pacific Hurricanes

U.S. DEPARTMENT OF COMMERCE — NOAA'S NATIONAL WEATHER SERVICE

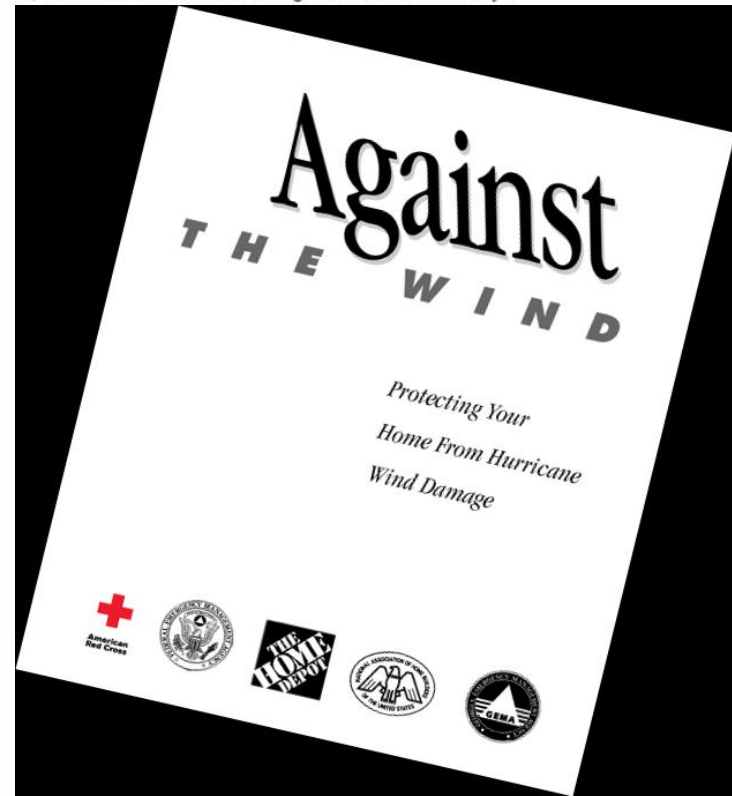
History of Hurricane Names

For several hundred years, many hurricanes in the West Indies were named after the particular saint's day on which the hurricane occurred. Ivan R. Tannehill describes in his book "Hurricanes" the major tropical storms of recorded history and mentions many hurricanes named after saints. For example, there was "Hurricane Santa Ana" which struck Puerto Rico with exceptional violence on July 26, 1825, and "San Felipe" (the first) and "San Felipe" (the second) which hit Puerto Rico on September 13 in both 1876 and 1928.

Tannehill also tells of Clement Wragge, an Australian meteorologist, who began giving women's names to tropical storms before the end of the 19th century.

An early example of the use of a woman's name for a storm was in the novel "Storm" by George R. Stewart, published by Random House in 1941, and since filmed by Walt Disney. During World War II, this practice became widespread in weather map discussions among forecasters, especially Air Force and Navy meteorologists who plotted the movements of storms over the wide expanses of the Pacific Ocean.

In 1953, the United States abandoned as confusing a two-year old plan to name storms by a phonetic alphabet (Able, Baker, Charlie) when a new, international phonetic alphabet was introduced. That year, this Nation's weather services began using female names for storms. The practice of naming hurricanes solely after women came to an end in 1978 when men's and women's names were included in the Eastern North Pacific storm lists. In 1979, male and female names were included in lists for the Atlantic and Gulf of Mexico.



INTERNATIONAL TSUNAMI

INFORM HAWAII TSUNAMI PREPAREDNESS & SAFETY INFORMATION

CEN
(IT

Tsunamis (Japanese term meaning wave in the harbor) are a threat in the Pacific Basin, which includes Hawai'i. This page contains informational links about tsunamis, what you should take if there is a threat of a tsunami.

LOCAL EARTHQUAKE - May cause you to fall or have difficulty standing. This warning. Initially, protect yourself from earthquake effects. When the shaking stops, evacuate zones immediately.

URGENT TSUNAMI WARNING - Possible tsunami generated by a significant earthquake. Sirens will sound. Turn on radio. **If an urgent tsunami warning is announced, evacuate zones immediately.**

TSUNAMI WATCH - Significant distant earthquake has occurred. Tsunami possible. **No siren sounding.** Prepare for possible **upgrade** to tsunami warning.

TSUNAMI WARNING - Tsunami approach confirmed. Sirens will sound. Evacuate when advised/ordered by civil defense.

TSUNAMI EVACUATION - Sirens will sound. Turn on radio. Those in evacuation zones must begin evacuation when the evacuation advisory/order is issued (to wave arrival).

For more information:

- Kauai Civil Defense Agency
- Oahu Civil Defense Agency Tsunami Information
- Maui Civil Defense Agency Tsunami Information
- Hawaii County Civil Defense Agency Tsunami Info

KNOW IF YOU LIVE OR WORK IN A TSUNAMI EVACUATION ZONE

Tsunami Evacuation Maps for Hawaii are in every telephone book. Preparedness Section and on-line at:

- Kauai
- Oahu
- Maui
- Molokai
- Lanai

fact sheet • tsunami detection and warnings

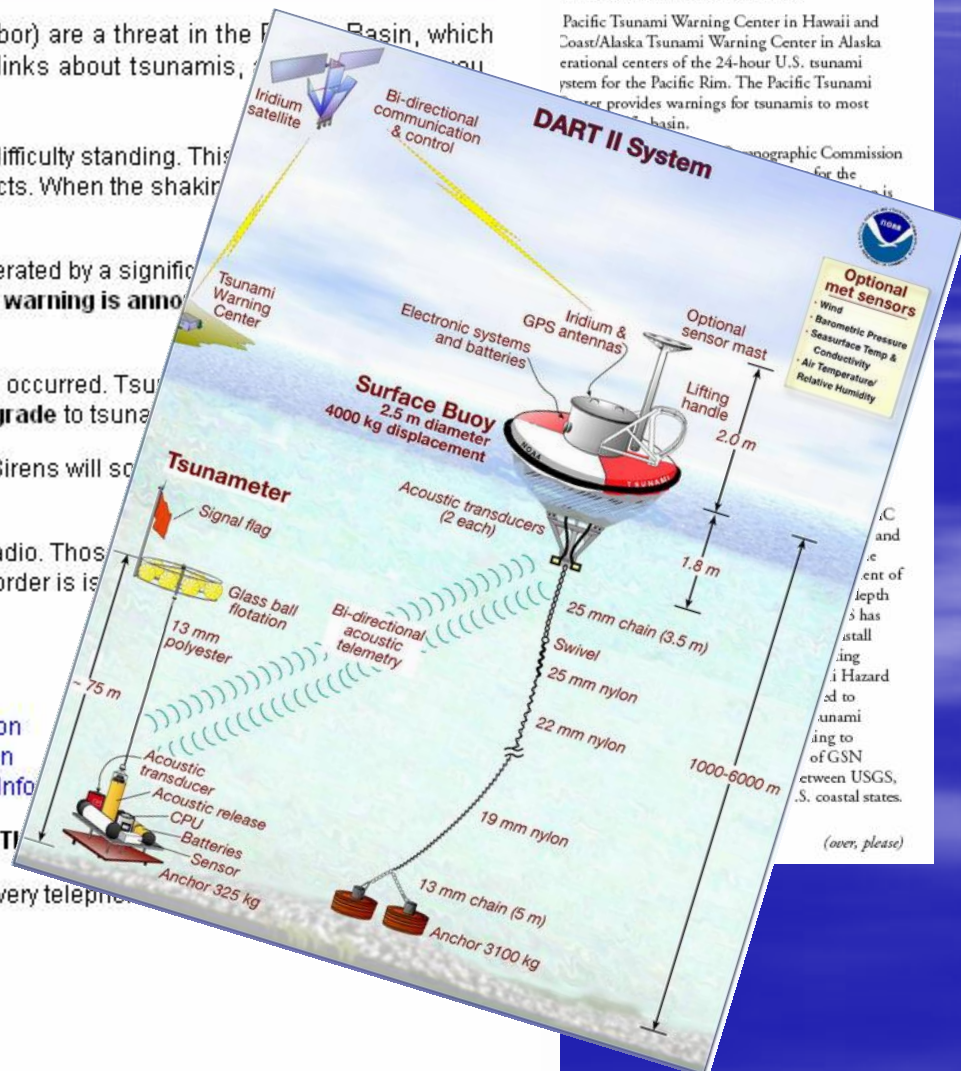


U.S. DEPARTMENT OF COMMERCE • U.S. DEPARTMENT OF THE INTERIOR

Tsunamis are a series of very long waves generated by any rapid, large-scale disturbance of the sea.

The U.S. Geological Survey contributes to tsunami warning by providing high-quality data from global and seismic station networks, by issuing accurate and timely earthquake alerts and assessments, and through basic historical tsunamis and their effects.

Pacific Tsunami Warning Center in Hawaii and Coast/Alaska Tsunami Warning Center in Alaska are operational centers of the 24-hour U.S. tsunami warning system for the Pacific Rim. The Pacific Tsunami Warning Center provides warnings for tsunamis to most of the Pacific basin.



(over, please)

WHAT TO DO? TSUNAMI SAFETY RULES



1. All earthquakes do not cause tsunamis, but many do. When you hear that an earthquake has occurred, stand by for a tsunami emergency message.
2. An earthquake in your area is one of nature's tsunami warning signals. Do not stay in low-lying coastal areas after a strong earthquake has been felt.
3. Tsunamis are sometimes preceded by a noticeable fall in sea level as the ocean retreats seaward exposing the seafloor. A roar like an oncoming train may come also.
4. A tsunami will not strike until it is too late to escape.
5. A tsunami will strike without warning.
6. All warning signs are not the same.
7. All tsunamis are not the same.
8. Never wave your hand.
9. Soon you will be safe.
10. During an emergency, cooperate.

fact sheet • tsunami detection and warnings



U.S. DEPARTMENT OF COMMERCE • U.S. DEPARTMENT OF THE INTERIOR

Tsunamis are a series of very long waves generated by any rapid, large-scale disturbance of the sea. Most are generated by sea floor displacements from large undersea earthquakes, the remainder produced by volcanoes and large undersea landslides. A tsunami can exceed 500 mph in the deep ocean but slows to 20 or 30 mph in the shallow water near land. Tsunamis can cause great destruction and loss of life within minutes on shores near their source, and some tsunamis can cause destruction within hours across an entire ocean basin.

Approximately 85 percent of tsunamis occur in the Pacific region but they are known to happen in every ocean and sea. Before December 26, 2004, the last cross-ocean tsunami in the Indian Ocean that resulted in thousands of casualties and widespread destruction occurred in 1883. Although infrequent, tsunamis are a significant natural hazard with great destructive potential. They can only be dealt with effectively through programs of warning, mitigation, and education.

The National Oceanic and Atmospheric Administration (NOAA) oversees the U.S. Tsunami Program with its mission to provide a 24-hour detection and warning system and increase public awareness about the threat of tsunamis. NOAA operates two tsunami warning centers that continuously monitor data from seismological and tidal stations, evaluate earthquakes that have the potential to generate tsunamis and disseminate tsunami information and warning bulletins to government authorities.

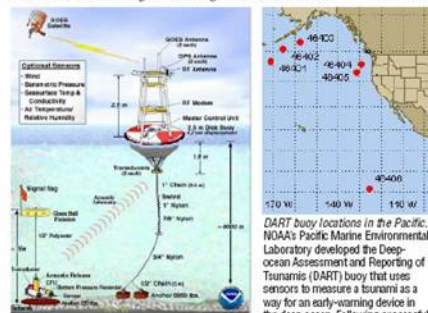
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The Pacific Tsunami Warning Center in Hawaii and the West Coast/Alaska Tsunami Warning Center in Alaska are the operational centers of the 24-hour U.S. tsunami warning system for the Pacific Rim. The Pacific Tsunami Warning Center provides warnings for tsunamis to most countries in the Pacific basin.

The U.N. Intergovernmental Oceanographic Commission established the International Coordination Group for the Tsunami Warning System in the Pacific in 1968. Its function is to assure that tsunami watches, warnings, and advisory bulletins are disseminated throughout the Pacific to 26 member states.

Global Earthquake Monitoring and Alerting by the U.S. Geological Survey

The U.S. Geological Survey operates the National Earthquake Information Center (NEIC) and, jointly with the National Science Foundation, the Global Seismographic Network (GSN). Together, these efforts allow the rapid characterization of earthquakes worldwide, as seismologists at NEIC routinely obtain and analyze data from GSN stations within minutes of an earthquake and issue earthquake bulletins, alerts and other products. Currently about 80 percent of the 130 stations of the GSN are available in near-real-time, and can be used for tsunami warning purposes. USGS NEIC staff work closely with personnel at the Pacific and Alaska Tsunami Warning Centers to ensure the timely transfer of critical data for the assessment of tsunami potential, such as source location, depth and magnitude. Since the 1960s, the USGS has worked with the PTWC and ATWC to install seismic stations and provide data supporting tsunami warning. The National Tsunami Hazard Mitigation Program, which was designed to maximize the efficiency of detecting tsunami threats, issuing warnings and responding to tsunami damage, relies on a number of GSN stations and ongoing cooperation between USGS, NOAA, FEMA and the western U.S. coastal states.



Tsunami Warning System buoys (DART). Graphic by NOAA Pacific Marine Environmental Laboratory, Seattle.

TSUNAMI



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How can I learn more about TsunamiReady?

For more information about TsunamiReady, visit the TsunamiReady web site at

<http://tsunami.gov>

or Contact the Warning Coordination Meteorologist at your local NWS forecast office.

Find them at www.stormready.noaa.gov/contact.htm



TsunamiReady is part of NWS's StormReady program. To find out more about it, visit www.stormready.noaa.gov



U.S. DEPARTMENT OF COMMERCE
National Oceanic & Atmospheric Administration
NOAA's National Weather Service
1325 East-West Highway
Silver Spring, MD 20910



Is Your Community Ready for the Next Tsunami?



<http://tsunami.gov>

Storm/TsunamiReady Programs

- *A voluntary community preparedness program that promotes weather and tsunami hazard readiness*
- *Primary goal to improve public safety during emergencies*
- *Tool to encourage jurisdictions to educate, plan, and mitigate against weather disasters*
- *A collaborative effort between federal, state, and local agencies, and the public at large*



TsunamiReady Community Components

■ StormReady Elements

- Emergency Operations Center
- Multiple Ways to Receive NWS Warnings
- Multiple Ways to Disseminate Warnings
- Multiple Ways to Monitor Conditions
- Hazardous Weather Plan
- Community Preparedness Education



■ TsunamiReady Elements

- Identify Hazard Zones
- Map Evacuation Routes and Assembly Areas
- Install Evacuation and Assembly Signage
- Educate Community on Tsunami Hazard and Safety Plans





Tsunami Ready Program in Hawaii

- All four counties in Hawaii have been recognized as TsunamiReady and StormReady
- Press Conference held in each county as they were recognized
 - Opportunity for Warning Center as well as local and state news outlets to carry message of planning for emergencies
- Press Conference held to recognize the State of Hawaii as TsunamiReady and StormReady
 - Governor of Hawaii, Director of the US National Weather Service, Congressional Representatives

TsunamiReady Press Conferences



NEWS FROM NOAA

NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION • US DEPARTMENT OF COMMERCE

MEDIA ADVISORY

Contact: Delores Clark
(808) 532-6411

FOR IMMEDIATE RELEASE
June 3, 2005

NOAA TO RECOGNIZE CITY AND COUNTY OF HONOLULU AS TSUNAMIREADY AND STORMREADY

NOAA's National Weather Service has recognized the city and county of Honolulu as TsunamiReady and StormReady communities. The city and county have fulfilled a number of criteria established by an advisory board for disaster preparedness and emergency response. These activities include:

• Recognized the city and county of Honolulu as TsunamiReady and

• StormReady





Tsunami Education in Hawaii

- April is Tsunami Awareness Month
 - Anniversary of the April 1, 1946 tsunami
- Statewide Drill
 - Warning Center, State Civil Defense, Department of Education, Department of Transportation, Harbor Masters, Hotel and Visitor Security Associations
- Media Event
 - Warning Center and State Government sponsored
 - Information handouts, posters, and interview opportunities
- TV, Newspaper, and Radio news stories mark the date and write stories on the many drills, ceremonies, and remembrance activities



Hotels 'have some work to do'

By [Kelly Yamanouchi](#)
Advertiser Staff Writer

If a tsunami hits O'ahu, tens of thousands of tourists may not know how to react. Waikiki hotels should do more to prepare workers and guests for evacuation, tsunami experts said at a workshop yesterday.

Precision drives tsunami exercise

By [Karen Blakeman](#)
Advertiser Staff Writer

When the sirens sounded yesterday at 11:45 a.m., agencies and organizations from the American Red Cross to Waikiki hotels geared up for an imaginary tsunami, arriving from off the coast of Alaska.

Civil Air Patrol planes circled O'ahu beaches, **Being prepared**

East O'ahu resident, 93, considers herself lucky survivor

- [Tsunamis in Hawai'i: Eyewitnesses remember](#)
- [Tsunami awareness is the best protection](#)
- [Major tsunamis recorded in Hawai'i](#)

By [Mike Leidemann](#)
Advertiser Staff Writer

Most people know the 1946 tsunami
Helen Sanborn Davis knows it

April 1, 1946: Have we learned enough since tsunami that killed 159 in Hawai'i?

By [Kevin Dayton](#)
Advertiser Big Island Bureau

HILO, Hawai'i — Sixty years ago today, the earth shifted violently deep below the surface of the ocean on the north slope of the Aleutian Trench south of Alaska's Unimak Island. That distant jolt delivered a deadly tsunami to Hawai'i, killing 159 people throughout the Islands.

That day was seared into the memories of survivors, but experts worry that many of the rest of us have all but forgotten about the tsunami hazard.

That amnesia could be deadly. Tsunamis have killed more people in the past century in Hawai'i than all other types of natural disasters combined, and one is sure to strike again.

The undersea shift at 1:59 a.m. April 1,

Major tsunamis recorded in Hawai'i

Hawai'i has suffered seven tsunamis serious enough to cost lives during the past two centuries, averaging about one every quarter-century.

Year	Source	Islands hit	Deaths	Intervening years
1837	Chile	Hawai'i, Maui	16	?
1868	Hawai'i	Hawai'i	47	31
1877	Chile	Hawai'i	5	9
1923	Kamchatka,	Hawai'i	1	46
		Hawai'i, Maui, O'ahu, Kaua'i	159	23
		Hawai'i	61	14

SE Asia disaster a wake-up call here

- [Tsunami death toll rising](#)
- [Tragedy touches Hawai'i as many seek word on families](#)
- [Hawai'i center had no way to sound alert](#)
- [Relief efforts start in Hawai'i](#)

By [Jan TenBruggencate](#)
Advertiser Science Writer

Hawai'i has an active tsunami warning system, but it has been a generation since the last destructive tsunami, and officials fear most residents don't fully understand the danger they might face.

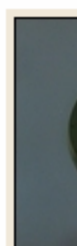
There hadn't been a severe tsunami in the Indian Ocean in human memory, so most nations and people there were not prepared for the weekend disaster that killed thousands in a swath of destruction stretching from south Asia to the coast of Africa.

Hawai'i should know better. Tsunamis have killed 222 people here in the past 60 years. But

Tsunami info

For more information on tsunamis:

Check the Disaster Preparedness Info pages in the front of the phone directory.



Unlike
Wailoa
two ts
Advert



Helen Davis returns to where her home once stood. The 1946 tsunami took it all away, but she managed to flee to higher ground at Makapu'u.

Cory Lum • The Honolulu Advertiser

spawned by an Aleutian earthquake lapping at the Davis home, wh

Keeping the Links Connected

- Annual workshops, meetings
- Update contact information
- Meet and train new staff
- Update science knowledge
- Update warning system knowledge
- Repetition of the message between warning center and partners and between media partners and the public

Questions ?

