

Tsunami Preparedness Silver Strand Community Meeting

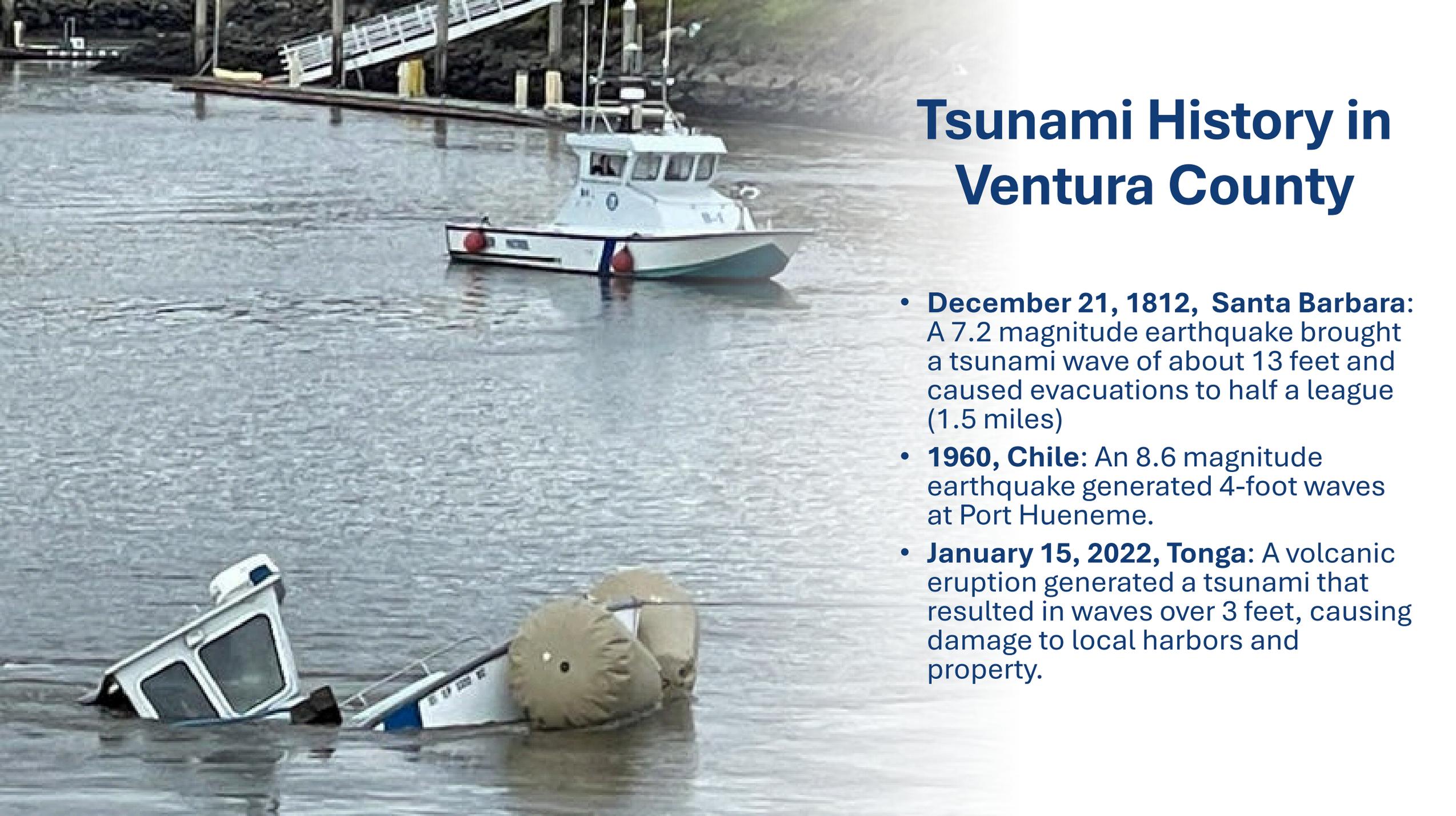


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Agenda

- **Welcome/Introductions**
- **Tsunami Awareness**
 - **History**
 - **Tsunami 101**
 - **Tsunami Hazard Signs**
- **Evacuations**
 - **Alert & Warning**
 - **Traffic Coordination**
- **Community Emergency Response Team**
- **Q & A**



Tsunami History in Ventura County

- **December 21, 1812, Santa Barbara:** A 7.2 magnitude earthquake brought a tsunami wave of about 13 feet and caused evacuations to half a league (1.5 miles)
- **1960, Chile:** An 8.6 magnitude earthquake generated 4-foot waves at Port Hueneme.
- **January 15, 2022, Tonga:** A volcanic eruption generated a tsunami that resulted in waves over 3 feet, causing damage to local harbors and property.

Tsunami 101

A **tsunami** is a series of powerful ocean waves traveling at very high speeds.

Tsunamis are **caused** by undersea:

- Earthquakes
- Landslides
- Volcanic eruptions
- Meteor impacts



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Tsunami 101

The first wave is not usually the strongest or the tallest.

Signs a tsunami may be coming:

- A strong local earthquake – Get to higher ground *immediately*
- Unusual, unexpected and/or sudden rise or fall of the ocean
 - If the water pulls back suddenly, do not investigate
- A loud roar coming from the ocean
- Arrives in multiple waves and surges



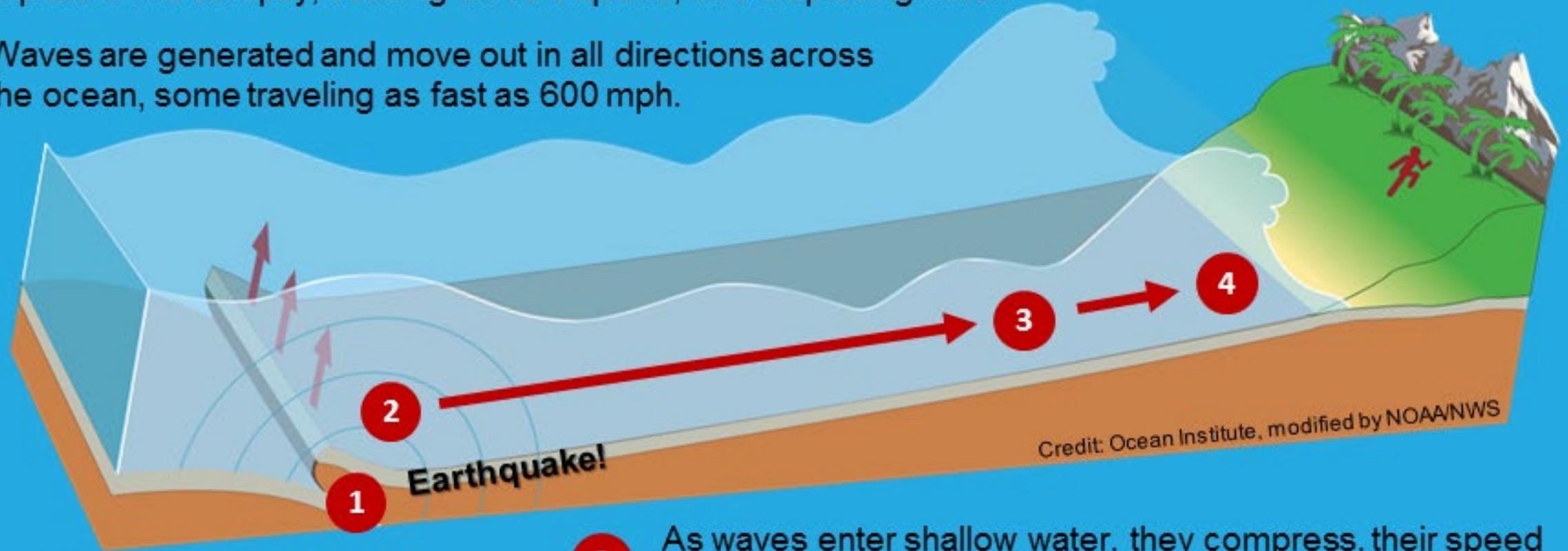
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How a Tsunami Works

Most tsunamis are caused by large earthquakes below or near the ocean floor.

1 A plate shifts abruptly, causing an earthquake, and displacing water.

2 Waves are generated and move out in all directions across the ocean, some traveling as fast as 600 mph.



Credit: Ocean Institute, modified by NOAA/NWS

3 As waves enter shallow water, they compress, their speed slows, and they build in height.

4 The wave height increases, and associated currents intensify, becoming a threat to life and property.



[weather.gov/tsunamisafety](https://www.weather.gov/tsunamisafety)

Tsunami 101: Warning Triggers & Challenges

Location + Magnitude = Time Until Impact:

- Alaska or Aleutian Regions: >8.5 magnitude = 5 hours
- Oregon, Washington, Canada: >8.5 magnitude = 1 hour
- Japan: Any magnitude = 12 hours
- Chile: >9.0 magnitude = 14 hours
- California Coast: >6.5 magnitude = < 30 minutes

Challenges for Silver Strand:

- Low-lying geographically and proximity to Channel Islands fault zone
- Narrow access in/out of neighborhood
- Connection with Naval Base Ventura County



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Tsunami Evacuation Routes

Familiarize yourself with evacuation routes, landmarks, and flood areas. Plan secondary routes as backup.

Tsunami Hazard Signs

- New Kiosks
 - Parks & Lifeguard Towers
- NBVC Gate Signs
 - Opened during Evacuation
- Updated Evacuation Signage
 - All coastal areas



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Kiddie Beach

- TSUNAMI FLOODING ZONE
- BEACH AREA (FLOODING ZONE)
- ➔ TSUNAMI EVACUATION ROUTE
- POSSIBLE CLOSURE DUE TO FLOODING
- LANDMARKS
- NAVY BASE AREA
- ⊗ RESTRICTED GATE (NAVY BASE)

Tsunami Alert and Warning

Always consider a strong earthquake the first sign a tsunami is possible and get to higher ground immediately. If you are on the beach or in the red area shown on this map and feel shaking, or if you receive an alert on your phone, television, or radio, follow the evacuation routes to leave the area.

1. **MOVE** to higher ground (100+ feet) or inland beyond the Tsunami Inundation Zone.
2. **FOLLOW** directions from public safety personnel. **DO NOT CALL 911.**
3. **STAY AWAY** from coastal areas—stay tuned to local radio, public safety, and media channels.

Get connected



VC Alert delivers emergency messages in English/Spanish within Ventura County. To register, visit ReadyVenturaCounty.org or scan the QR code. Wireless Emergency Alerts may be sent to all cellular phones within a cell tower range. One or both alert systems may be activated if a tsunami is foreseen.



Tsunami Hazard Signs



Evacuations – Alert & Warning



National Tsunami Center - Alaska

National Oceanic & Atmospheric Administration (NOAA)

- Issues Tsunami Alerts – tsunami.gov
- Uses detection buoys to track tsunami behavior
- Sends Wireless Emergency Alert - widespread/non-specific

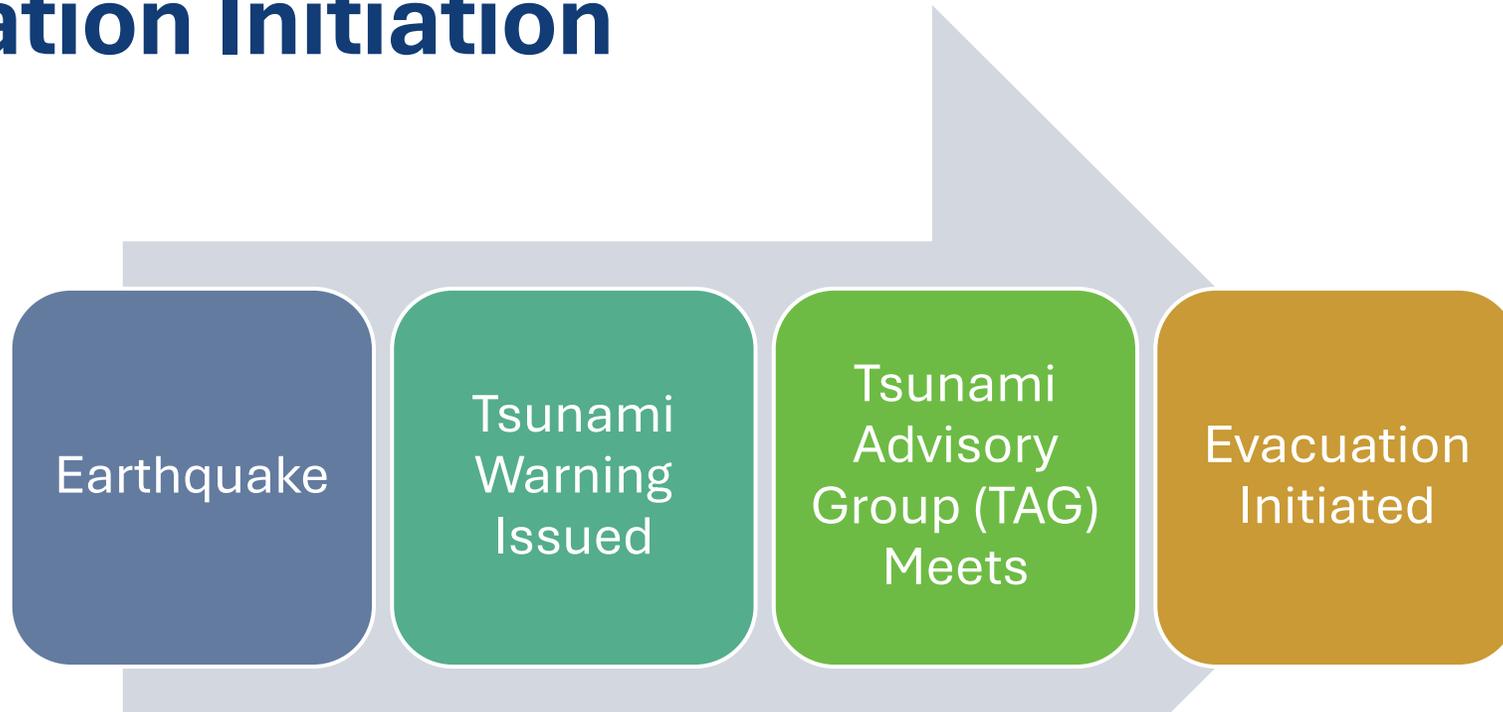


**Tsunami Detection Buoy
Deep Ocean Assessment of
Tsunami (DART)**

TSUNAMI ALERT LEVEL DEFINITIONS

Alert Level	Potential Hazard(s)	Action
WARNING	Dangerous coastal flooding and powerful currents	Move to high ground or inland
ADVISORY	Strong currents and waves dangerous to those in or very near water	Stay out of the water and away from beaches and waterways
WATCH	Not yet known	Stay tuned for more information and be prepared to take action
INFORMATION STATEMENT	No threat or very distant event for which hazard has not been determined	No action suggested at this time

Evacuation Initiation



- Agency actions are pre-planned and pre-coordinated in the **Ventura County Tsunami Response Guide**.
- Tsunami Advisory Group members are on “Speed Dial” through conferencing software.

Evacuations – Alert & Warning

VC Alerts

- Messages are pre-recorded
- Evacuation shapes are drawn and saved

VCEmergency

- Incident Information - VCEmergency.com

Wireless Emergency Alerts

- Cell phone towers, no opt-in

Ventura County Sheriff Tactical Resource Team

- Door-to-door
- PA systems
- Hi-lo siren



Media

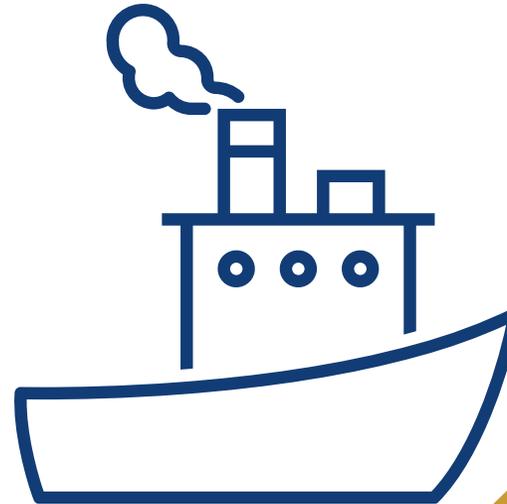
- Social Media-NOAA, Public Safety



Evacuations – Alert & Warning

Channel Islands Harbor Patrol Tsunami Protocol:

- Outreach to all *permitted* live aboard and private marina dockmasters
 - Time allowing - Advise to check and/or bolster mooring lines, spring lines and fenders for vessel protection
 - Advise stay in safe harbor, brace for increased currents
 - Emergency Broadcast:
 - VHF radio channels 12 and 16
 - Emergency line 805-382-3000
 - Public address



Evacuations – Traffic Coordination

Victoria Avenue

Lakeshore Drive

Curlew Way

Channel Islands Blvd

No Notice Event

- Evacuation on foot through Channel Islands Blvd.

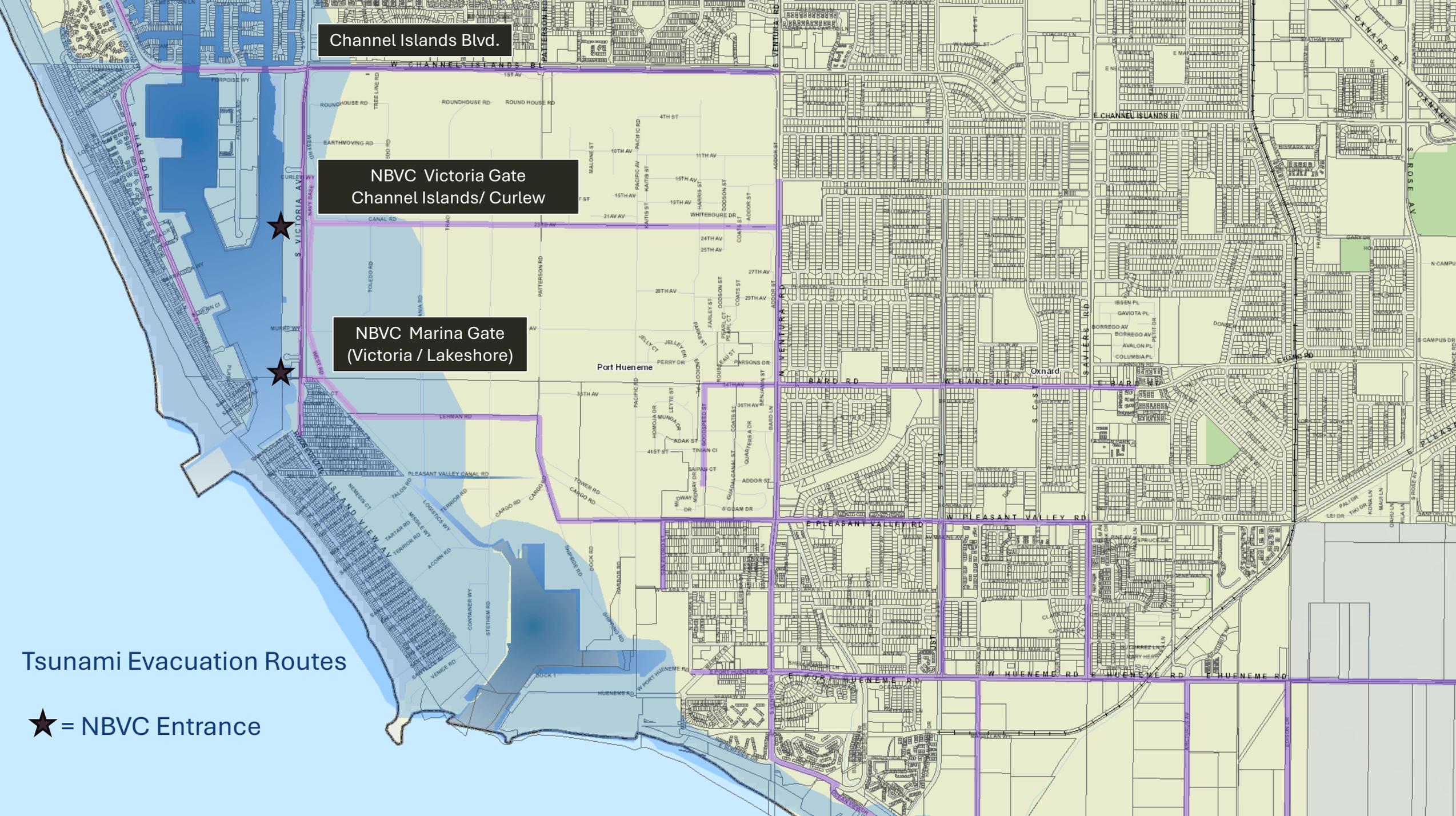
Evacuation through Naval Base Ventura County

- NBVC participates in Tsunami Advisory Group
- Evacuation Order activates NBVC Emergency Plan
- NBVC ready for through traffic in < 15 minutes

Silver Strand Evacuation Plan

- Traffic will be directed to one of three exits





Channel Islands Blvd.

NBVC Victoria Gate
Channel Islands/ Curlew

NBVC Marina Gate
(Victoria / Lakeshore)

Tsunami Evacuation Routes

★ = NBVC Entrance

Takeaways – Tsunami Safety

Know the Signs:

- A strong local earthquake
- Unusual and/or unexpected sudden rise or fall of the ocean
- A loud roar coming from the ocean

Get to Safety

- Move to higher ground
 - 100 feet or higher = Best
- Move as far inland as possible
 - 1 mile or more = Best
- Study Evacuation Routes
- Tune to local radio and listen for public safety instructions

Radio Stations:

KVTA - 1590 AM

KHAY - 100.7 FM

KMLA - 103.7 FM (español)



Community Emergency Response Team



Department of Homeland Security
Emergency Preparedness and Response Directorate
FEMA



citizen  corps



Ventura County Fire - CERT

A Ventura County CERT member is trained to provide immediate assistance to their community, family and neighbors in the event of a disaster when professional responders are delayed.

History

- Established in 1985 through the Los Angeles County Fire Department
- Originally geared toward Earthquake rescue and recovery
 - Observations from Japan and Mexico City
- FEMA rolled out a national CERT program in 1993
 - Currently more than 2700 active CERT teams
 - Over 600,000 volunteers trained

Objectives

- Community-based disaster preparedness
- National consistency
- Focus on self-sufficiency
- Organize and exercise neighborhood and workplace response teams
- Supplement first responder aid



What a CERT Volunteer Does...



- Provides immediate assistance
- Performs light search and rescue
- Administers basic medical aid
- Extinguishes small fires
- Helps reduce survivor stress
- Assists first responders

Ventura County Fire – CERT Training

Training Basics

- Provided by Ventura County Fire Department
- Taught by first responders
- Six (6) weekly 3-hour classes + Saturday full-scale exercise
- Ages 18+ only
- Must complete all classes to graduate

Curriculum

Week 1 – General Preparedness

Week 2 - Team Organization / Management / Disaster Psychology

Week 3 - Disaster Medical Operations- 1 Triage

Week 4 - Disaster Medical Operations- 2 Treatment and Hands Only CPR

Week 5 - Fire Safety and Suppression

Week 6 - Basic Search and Rescue / Terrorism Awareness

Week 7 - Course Review and Disaster Simulation



Why CERT?

Most of all rescues during time of Disaster or National Emergency are preformed by Volunteers.

Visit this web link to for the active CERT calendar and to register:

<https://fire.venturacounty.gov/cert/>

Scan this QR code to register:



*Every community needs a **CERT**ain Kind of Hero!*





Questions?



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Resources



Ready.venturacounty.gov

VC ALERT

EMERGENCY NOTIFICATION SYSTEM

VC ALERT is an emergency notification system for Ventura County residents that may be used to alert you if there is an emergency in your community. Register your home or business address, landline, cell phone, email, and TTY device to receive emergency alerts. Alerts will be sent in both English and Spanish.

HOW IT WORKS



TO REGISTER

- INTERNET** - Go to www.vcalert.org. Create a profile and manage your preferences.
- E-MAIL** - vc.alert@ventura.org
- MOBILE APP** - Download the Everbridge App from your iOS or Android Device. Click on "Find an Organization or Subscription", type "VC Alert" in the search bar, click on "Ventura County, CA: VC Alert Emergency Notification System".
- MAIL** - Mail to Ventura County Sheriff's OES at 800 South Victoria Ave., #3450, Ventura, CA 93009.
- PHONE** - Call 805-648-9283

You will be charged the standard fee from your phone provider for receiving the emergency alerts. The County of Ventura is not responsible for any charges that may be incurred as a result of receiving these alerts.



Partner
Resources



Ventura County Sheriff



City of Oxnard



Naval Base Ventura County



City of Port Hueneme



Channel Islands Harbor Patrol



California Highway Patrol