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VENTURA COUNTY OPERATIONAL AREA TSUNAMI EVACUATION PLAN



Prepared by:
**Ventura County Sheriff's
Office of Emergency Services**
with the
Cities of Ventura, Oxnard and Port Hueneme, and Naval Base
Ventura County

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INTRODUCTION

Tsunamis are geologic hazards that can be the result of both ground shaking forces and forces other than ground shaking (sub-sea and sub-aerial landslides). Man-made tsunamis have been generated by the detonation of underwater nuclear bombs at Bikini atoll and elsewhere. Tsunami hazards remain the same regardless of whether caused by a seismic event or an event not associated with an earthquake.

Tsunamis are a threat, not because they are extensive or frequent, but because the destruction they cause can be devastating. Tsunamis can cause loss of life from drowning, and they can cause extensive damage to structures on or near beaches and river mouths. In addition, water systems can be contaminated, power supplies disrupted, transportation systems blocked or disrupted, oil and gas pipelines compromised, and communications pathways along the coast destroyed. There can also be an increased occurrence of fire from broken oil or gas tanks or lines, as well as flooding from blocked rivers, etc. The danger is compounded by the fact that the intensity of the wave is unpredictable and the threat is intermittent over many hours. The waves can arrive onshore in intervals of up to an hour, and since there are usually a number of waves (rather than just one), the threat usually exists for as long as ten to twelve hours. Tsunamis are sometimes preceded by a trough which appears to be similar to an extremely low tide. The wave itself may follow the trough by 15 to 45 minutes.

A tsunami is a traveling ocean wave generated by disturbances associated with earthquakes, volcanoes or major submarine landslides. These waves have a long wavelength (distance from the crest of one wave to the crest of the succeeding wave), normally over 100 miles, and a very low amplitude (height from crest to trough). As these waves approach shallow water, the speed decreases from a deep water speed of over 600 m.p.h. to less than 30 m.p.h., and their energy is transferred from wave speed (velocity) to wave height (amplitude); waves as high as 80-100 feet can be formed. Although the arrival time of waves can be predicted, the intensity of the wave when it reaches shore cannot be predicted.

The tsunami threat is mainly confined to the immediate beach areas and river mouths (deltas). All of the coastal areas in Ventura County are susceptible to tsunamis. Most of the land between the beach and the cliffs on both the north and south coasts is included within the hazard zone. The hazard zone is delineated as roughly the elevation of 33 feet (10 meters); however, effects of structures and topography may locally affect the inland extent of the tsunami (run up). The estimated population of the potential inundation area in Ventura County is approximately 40-45,000 (daytime) and 25,000 (night). Ventura County is subject to threats from both tele-tsunamis (distant generated, trans-oceanic) and locally generated events in the Santa Barbara Channel and Gulf of Catalina.

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Concept of Operations

Upon receipt and confirmation of a Tsunami Warning or Advisory, the Sheriff's Office of Emergency Services Duty Officer will notify: All OES Staff, Sheriff's Watch Commander, Sheriff's EOC Commander (WCPS Commander), Coastal Emergency Managers (Cities of Ventura, Oxnard, Port Hueneme, NBVC). In conjunction with the EOC Commander, a decision to activate the OpArea EOC immediately, or at a particular time will be made, and relayed to all affected jurisdictions, agencies and personnel. A recommendation to activate local tele-notification systems, or the Emergency Alert System will be considered, based upon the available information.

If the event is locally generated, no warning may be available, and EOC's and DOC's will activate in response to local requirements or damage.

A tele-tsunami (distant generated or trans-oceanic) may be detected, and warning provided anywhere from two to 12 hours in advance of an event striking our coast. Distant events may also pass gauge or measuring points that will allow further analysis of the threat to the County.

When the decision to activate the OpArea EOC is made, all Cities and Jurisdictions in the OpArea and CalEMA will be notified. City EOC's and Agency DOC's will activate in accordance with existing plans, and two-way, redundant communications will be established.

The Ventura County Chapter of the American Red Cross will be notified to assist in the establishment of assembly areas (Oxnard College, Ventura College, Southwest Regional Park). Shelter Operations will not commence until residential damage is confirmed.

The Ventura County Transportation Commission will assist in the notification and assignment of mass transportation resources, initially to evacuation points, and (if necessary) from assembly areas to shelter sites.

Evacuation Orders will be issued via the Emergency Alert System and local telenotification systems, with specific route and destination information sent to all media and the National Weather Service immediately following the EAS Broadcast. If time permits, vehicle public address systems and sirens may also be used to notify coastal residents.

Emergency equipment and personnel will stage outside the potential inundation area. Command Posts should be established to facilitate management of rescue operations and use of resources. Rescue operations may commence when the water recedes, or an "ALL CLEAR" message has been received, generally 2-3 hours after the last "wave." Lookout systems should be established to warn of additional "waves," which can occur at intervals greater than 2-3 hours after the initial event. Rescuers should ensure escape routes and constant communication with Command Posts and/or lookouts.

NO TRANSPORTATION RESOURCE SHOULD BE DIRECTED INTO MOVING WATER OR STANDING WATER WITH A DEPTH GREATER THAN 24 INCHES (2 FEET). Some mass transit resources cannot transit water depths over 12-18 inches.

BACKGROUND & HISTORICAL INFORMATION

Ventura County has not been seriously impacted by a tsunami since the early 18th Century. Historical records, confirmed by geologic exploration, indicate that a tsunami occurred in the Santa Barbara Channel around 1812. However, what is not clear is the source of the event. Current theories about what generated that event include a sub-aerial landslide on the east coast of Santa Cruz Island and a submarine landslide in the vicinity of Coal Oil Point (near UCSB). Either of these potential source events could have been related to a major earthquake in the Santa Barbara Channel around the same time. Anecdotal reports indicate that the tsunami caused damage to both Mission San Buenaventura and Mission Santa Barbara.

The most significant remote tsunami to hit southern California was in 1960, when an 9.5 magnitude earthquake off the coast of Chile generated a tsunami resulting in 4 ½ foot waves at Santa Monica and Port Hueneme, and caused major damage to the Los Angeles and Long Beach harbors.

The 1964 Good Friday Alaskan Earthquake (Magnitude 9.2) generated a tsunami that caused major damage to port facilities up and down the California Coast, and 11 deaths in Crescent City, California. However, only minor damage was reported in either Ventura Harbor or the Port of Hueneme.

On February 27, 2010, an earthquake near Chile (Magnitude 8.8) generated a tsunami that caused high velocity (in excess of 10-15 knots) flows in Ventura Harbor, damaging many docks in the Pierpont area. An earthquake near Honshu, Japan in March of 2011 had similar effects, but caused less damage.

Ventura County Sheriff's Office of Emergency Services has participated in the California Emergency Management Agency's (CalEMA) Tsunami Steering Committee (TSC) for several years. The CalEMA Tsunami Steering Committee members include representatives from all coastal Operational Areas, as well as State and Federal Agencies. Led by CalEMA, the TSC has jointly determined the priorities for use of dollars received from the State and Federal Government, as well as performing as a clearinghouse for information and planning tools. The TSC has promulgated educational and training materials, exercises and a policy of standardization that all member agencies have agreed upon.

In July of 2005, Ventura County hosted the first Operational Area Tsunami Planning Conference, which has served as a template for other Op Areas to use. Representatives from Cities, Special Districts, State and Federal Agencies and the County met to learn the latest information derived from the December 2004 Indian Ocean Tsunami, and to review the lessons learned from the June 2005 Tsunami Warning. From this group, volunteers from many local, state and federal agencies came together to form the Tsunami Planning Group for the Ventura County Operational Area.

During 2007/08, CalEMA, in conjunction with the California Geological Survey, University of Southern California and Ventura County Sheriff's OES participated in updating the inundation area maps, and conducting "ground truth" surveys to confirm remote sensing and newly acquired data.

While Ventura County is potentially affected by both locally generated and tele-tsunamis, this plan is primarily intended for use during events occurring more than two hours travel time from Ventura. However, the identified routes, procedures, resources and assembly points are applicable during any tsunami event.

JURISDICTIONS & FACILITIES POTENTIALLY AFFECTED

North Coastal Area



County of Ventura
California State Parks
California Department of Transportation (CalTrans) & CHP
Union Pacific Railroad/AMTRAK/Metrolink
Rincon Island (Dos Cuadros Offshore Resources)

Ventura to Santa Clara Rivers



County of Ventura City of San Buenaventura
California State Parks
California Department of Transportation (CalTrans) & CHP
Union Pacific Railroad/AMTRAK/Metrolink
Seaside Park (State of California 31st Agricultural District)
Crowne Plaza Hotel
Channel Islands National Park (Islands & Headquarters)

Ventura (City) Wastewater Treatment Plant
Ventura Unified School District (Pierpont Elementary School)
Ventura Harbor (Ventura Port District) & Tenants

Santa Clara River to Mugu Rock



California State Parks
County of Ventura
City of Oxnard
California Department of Transportation (CalTrans) & CHP
Reliant Energy (Mandalay & Ormond Power Plants)
Port of Hueneme (Oxnard Harbor District)
Channel Islands Harbor (County of Ventura) and Tenants
Coast Guard Station Channel Islands Harbor

Berry Petroleum
Casa Sirena Hotel
Naval Base Ventura County (Port Hueneme and Point Mugu)
Hueneme Elementary School District (Hollywood Beach Elementary School, Hueneme School)

South Coastal Area



County of Ventura
California State Parks
California Department of Transportation (CalTrans) & CHP

NOAA/NWS MESSAGE DEFINITIONS

Warning	->	Inundating wave possible	-> Full evacuation suggested
Advisory	->	Strong currents likely	-> Stay away from the shore
Watch	->	Danger level not yet known	-> Stay alert for more info
Information	->	Minor waves at most	-> No action suggested

Based on seismic data analysis or forecasted amplitude (dependent on whether the center has obtained sea level data), WCATWC will issue the appropriate product. Warnings and Advisories suggest that action be taken. Watches are issued to provide an early alert for areas that are distant from the wave front, but may have danger. Once the danger level is determined, the watch is upgraded to a warning or advisory, or canceled. The full definition of each message is given below.

Tsunami Warning - a tsunami warning is issued when a potential tsunami with significant widespread inundation is imminent or expected. Warnings alert the public that widespread, dangerous coastal flooding accompanied by powerful currents is possible and may continue for several hours after arrival of the initial wave. Warnings also alert emergency management officials to take action for the entire tsunami hazard zone. Appropriate actions to be taken by local officials may include the evacuation of low-lying coastal areas, and the repositioning of ships to deep waters when there is time to safely do so. Warnings may be updated, adjusted geographically, downgraded, or canceled. To provide the earliest possible alert, initial warnings are normally based only on seismic information.

Tsunami Advisory - a tsunami advisory is issued due to the threat of a potential tsunami that may produce strong currents or waves dangerous to those in or near the water. Coastal regions historically prone to damage due to strong currents induced by tsunamis are at the greatest risk. The threat may continue for several hours after the arrival of the initial wave, but significant widespread inundation is not expected for areas under an advisory. Appropriate actions to be taken by local officials may include closing beaches, evacuating harbors and marinas, and the repositioning of ships to deep waters when there is time to safely do so. Advisories are normally updated to continue the advisory, expand/contract affected areas, upgrade to a warning, or cancel the advisory.

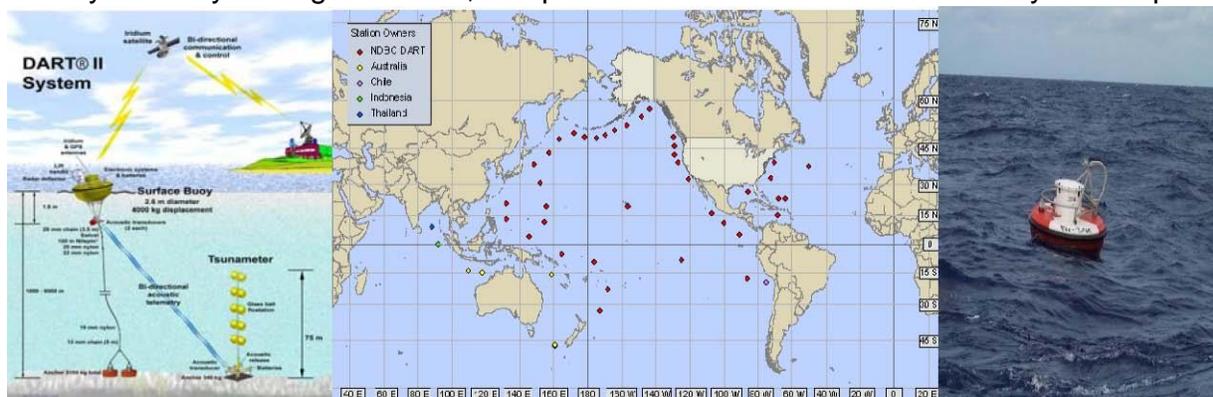
Tsunami Watch - a tsunami watch is issued to alert emergency management officials and the public of an event that may later impact the watch area. The watch area maybe upgraded to a warning or advisory - or canceled - based on updated information and analysis. Therefore, emergency management officials and the public should prepare to take action. Watches are normally issued based on seismic information without confirmation that a destructive tsunami is underway.

Tsunami Information Statement - a tsunami information statement is issued to inform emergency management officials and the public that an earthquake has occurred, or that a tsunami warning, watch or advisory has been issued for another section of the ocean. In most cases, information statements are issued to indicate there is no threat of a destructive tsunami and to prevent unnecessary evacuations as the earthquake may have been felt in coastal areas. An information statement may, in appropriate situations, caution about the possibility of destructive local tsunamis. Information statements may be re-issued with additional information, though normally these messages are not updated. However, a watch, advisory or warning may be issued for the area, if necessary, after analysis and/or updated information becomes available.

WARNING AND COMMUNICATIONS SYSTEMS

Tsunami “Warning” (a tsunami has been generated), “Watch” (a tsunami may have been generated) “Advisory” (high flows and/or currents) and “Information” (a seismic event that probably will not generate a tsunami) messages are issued for our area by the *West Coast and Alaska Tsunami Warning Center* (WCATWC – <http://wcatwc.arh.noaa.gov/>), located in Palmer, Alaska. Tsunami Advisory and Information Statements are also issued for seismic events that will may not generate a tsunami (See Page 11 for NWS Message Definitions). The WCATWC is an element of the Department of Commerce, National Oceanographic & Atmospheric Administration (NOAA). Since late 2005, the WCATWC has been staffed twenty-four hours a day, and is backed up by (and backs up, as well) the *Pacific Tsunami Warning Center* (PTWC), located in Ewa Beach, Hawaii. Both centers also transmit “Information” messages when significant seismic events occur under the sea floor, but do not have the potential to generate a tsunami.

Both Tsunami Warning Centers receive and share seismic information with numerous national and international networks, and also receive data from tide gauges, recording stations and Deep Ocean Assessment and Reporting of Tsunami (DART) buoys located throughout the world. NOAA completed the original 6-buoy operational array in 2001. In 2005, President Bush ordered an expansion of the DART Buoy system from six buoys to thirty-nine U.S. sponsored buoys. NOAA expanded to a full network of 39 stations in March 2008. (<http://www.ndbc.noaa.gov/dart/dart.shtml>). In coordination with the US plan, Chile, Australia, New Zealand, India, Thailand and Malaysia have also begun to create or expand their systems by adding additional, compatible sites. There are now 47 buoy sites reporting

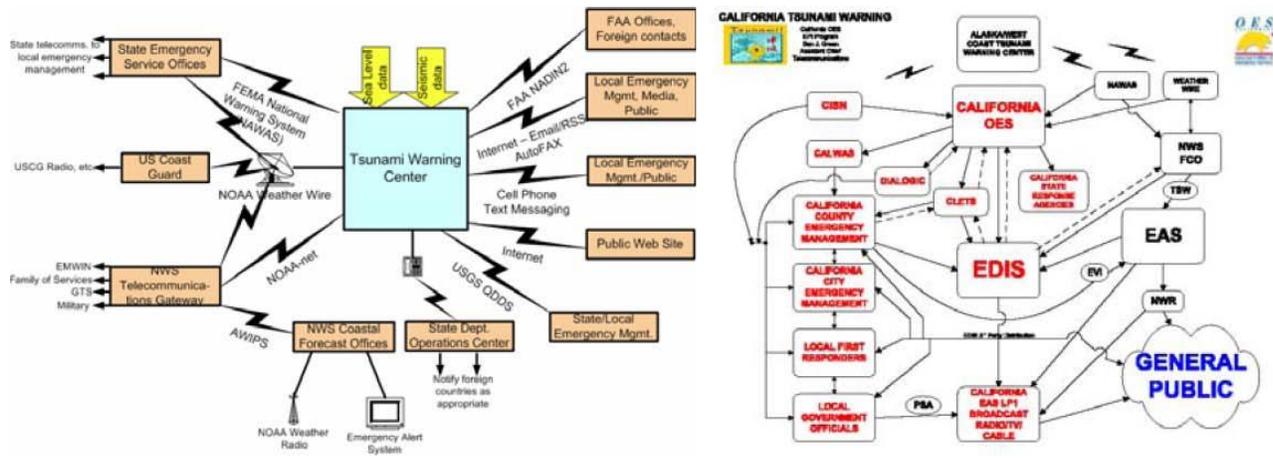


from all over the world.

Tsunami Information, Advisory, Watch and Warning messages are transmitted by the respective Warning Centers over the NOAA *Weather Wire* system directly to each other, Coastal National Weather Service Forecast Offices and their Area of Responsibility’s State Warning Centers. Our local National Weather Service Office is located in Oxnard, and serves the Counties of San Luis Obispo, Santa Barbara, Ventura and Los Angeles. The California Emergency Management Agency (CalEMA) operates California’s State Warning Center in Sacramento.

Some messages are transmitted automatically based upon seismic event magnitude and location, and followed shortly by amplifying information (after review by scientists at the Tsunami Warning Centers). Generally, a message is generated within five minutes of the seismic event. If a tsunami is suspected to have been generated, the Warning Center will issue a **Warning**, **Watch** or **Advisory** message (as appropriate), including a “forecast” of

probable arrival times at various points in their area of responsibility. Arrival times and heights are estimates, based on both historical data and current data from monitoring systems. The information is refined as the event passes (or doesn't!) tide gauges and DART Buoys.



The State Warning Center also notifies coastal Operational Areas, State and Federal partner agencies, and CalEMA Staff via a tele-notification system. All WC/ATWC products (Warning, Advisory, Watch and Information Statements) are transmitted by the State Warning Center over the California Law Enforcement Telecommunications System (CLETS) and the California Warning and Alerting System (CALWAS). In Ventura County, Dispatch Centers for the Sheriff’s Department, Fire Protection District, Ventura, Oxnard and Port Hueneme Police Departments, and the Naval Base, Ventura County receive these messages.

NOAA also has established an additional system that sends brief text messages to mobile devices with e-mail addresses. Users may register their device’s address at the WCATWC’s site: <http://wcatwc.arh.noaa.gov/watcher/tsunamiwatcher.php>.

Tsunami Warning, Watch, Advisory and Information messages are also “ported” into the *Electronic Digital Information System* (EDIS) (<http://edis.oes.ca.gov/>). EDIS is a publicly accessible Internet based information dissemination system originally designed to provide media text information about current events. Today, anyone with an e-mail address may subscribe to EDIS messages by registering at the address listed above.

Tsunami Warning messages are received by the State Warning Center, and immediately retransmitted over both CLETS and EDIS. The Warning Center then follows up by calling each coastal OpArea over CalWAS (California Warning and Alerting System, the State network portion of NAWAS (National Alert and Warning System)). The State Warning Center has also programmed their automatic dialing system with the office, cell, home, and pager number for OpArea Emergency Managers. OpArea Emergency Managers will receive an automated message to contact the Warning Center for detailed information, which may include the time and location for receipt of additional information. The Ventura County Sheriff’s Office of Emergency Services Duty Officer will confirm receipt of the information by

local jurisdictions' Emergency Coordinators. Based upon the available information, the OES Duty Officer may recommend EOC Activation and implementation of evacuation plans.

The Oxnard Weather Forecast Office receives Tsunami Warning Messages via NWS "Weather Wire." Upon receipt, the message is reviewed and edited for the local service area (the message from WCATWC includes information for the entire West Coast, Alaska and British Columbia). The transcribed message is then recorded for transmission over the Emergency Alert System (EAS) and local National Weather Radio (NWR) sites. The Oxnard office controls NWR sites at Avalon (Catalina Island), San Luis Obispo, Mt. Wilson (Los Angeles), San Simeon and Santa Barbara (both marine and terrestrial forecasts).

EAS messages coded as TSW (Tsunami Warning), TSA (Tsunami Watch) and CEM (Civil Emergency Message) are automatically relayed and broadcast by participants in the local EAS, including radio (AM & FM), television and cable stations. EAS audio messages are limited to 118 seconds in length, and will generally inform listeners of the need for specific actions (evacuation), and to tune to a local broadcast station for further information.

The Cities of Ventura, Oxnard and Port Hueneme have the capability to put emergency and preparedness information on local government cable television channels. There is currently no such option available for the unincorporated areas of Ventura County.

There is no fixed, audible warning system that covers the entire 42-mile coast of Ventura County. The City of Port Hueneme has access to a single siren (located on Port of Hueneme property) that covers their area of responsibility, as well as portions of Oxnard, NBVC and the County.

The County of Ventura purchased an electronic telenotification system in September of 2007. The system utilizes a combination of database and Geographic Information Systems (GIS) technologies to deliver outbound messages in the event of an emergency. The system allows emergency responders to pinpoint a specific geographic area and deliver the appropriate message to thousands of residents in the area simultaneously. The Cities of Oxnard, Port Hueneme and the unincorporated areas within the tsunami inundation layer are all covered by the system. The City of Ventura has a similar community notification system called CodeRED®. In 2011, the County will transition its' Emergency Telenotification System to a new vendor with similar capabilities. The County and Cities coordinate messaging to ensure clear and cohesive instructions to coastal interests.

In the event that a Tsunami WARNING is issued for a tele-tsunami, these notification systems may be employed to deliver the following messages to residents within the tsunami inundation layer:

"This is the Ventura County Sheriff's Department with important emergency information. A tsunami warning has been issued for the Ventura County coastline. Residents should immediately move inland two miles or to land that is at least 100 feet above sea level immediately. Walk quickly, rather than drive, to avoid traffic, debris and other hazards. Stay away from coastal or low-lying areas until local emergency officials have issued an "all clear" notice.

Waves may continue to arrive for several hours. Listen to local radio and television stations for additional emergency information and instructions from local officials about re-entry." (Approximately 40 seconds)

The City of Ventura will be responsible for notifying residents within the incorporated area utilizing CodeRED®. The County and Cities will coordinate messaging to ensure clear and cohesive instructions to coastal interests. The OES Duty Officer or Ventura County Sheriff's Watch Commander will be responsible for activating the telenotification system to notify all residents within the inundation layer who are covered by the system. There will be no information provided on specific evacuation routes in the message delivered to residents. Residents have the responsibility of familiarizing themselves with proper evacuation routes prior to the tsunami warning.

Emergency vehicle (and helicopter) public address systems and sirens may be used to alert residents of the need to evacuate. These tools may be most effective during the night hours, when most televisions and radios are not in use. The vehicles' audible warning systems (siren) should be used in conjunction with verbal direction to turn on radios or televisions and tune to emergency information sources. Occupants of the inundation area should become familiar with evacuation routes, refuge and assembly areas, and shelters.

Tsunami and evacuation information is available from local emergency managers, and on the Sheriff's Office of Emergency Services web site: www.vcsd.org/oes/index.html. Further information about tsunamis, including the latest warning and information messages is available from the West Coast & Alaska Tsunami Warning Center's web site: <http://wcatwc.arh.noaa.gov/>.

Locally Generated Events

Warning may not be possible in the event of a tsunami generated by a local seismic event, and will not be available if a tsunami is generated by a local non-seismic event (sub-aerial or sub-sea landslide). It is believed that a subsea or sub-aerial landslide generated a tsunami in 1812 that caused significant damage to Ventura and Santa Barbara Counties. If on the beach (or in the defined inundation area) during an earthquake, move to high ground immediately. **DO NOT WAIT** for a warning!

If you're in the inundation area during a significant earthquake that shakes for more than 20 seconds, take immediate protective actions (duck, cover and hold), and then proceed immediately to high ground. Be aware of other geologic hazards if you're moving into a coastal canyon or other area subject to seismically generated land and rock slides.

Take time before an event to "scout" your primary and secondary evacuation routes.

Shelter and Assembly Areas

Residents of the inundation area will be encouraged to WALK to safe areas. The majority of residents should be able to move to high ground on foot in less than one hour. Residents are encouraged to “scout” their evacuation routes in advance, to fully make themselves aware of the route and potential problems they may encounter.

Three primary assembly areas have been identified. Oxnard Community College, Ventura Community College and Southwest Regional Park all have large open areas, access to sanitation facilities, and room for large vehicles to turn around. These sites will be used for temporary shelters, and for families to re-connect, or to make contact with other friends to arrange for alternate housing.

If there is damage to housing, the Red Cross will transition to opening traditional shelters at various community locations, depending upon need and numbers requiring shelter. Mass transportation resources may be required to transport evacuees from Assembly Areas to shelters. The standard estimate used by Red Cross is that about 20% of the population of an affected area will make use of the shelters.

As in any evacuation, displaced residents will arrive at shelters without critical necessities: medicines, prosthetic devices, assistive appliances, and personal sanitation supplies. However, it is highly likely that they will arrive with mild to moderate injuries and pets. Red Cross Shelters have minimum capabilities to address mild illness and injuries, but will need the assistance of additional health resources for long-term care or emergent needs. Red Cross and the Ventura County Animal Services Department have an agreement to provide small animal (pet) facilities in close proximity to shelters, whenever possible.

Law Enforcement, Emergency Medical Services and Animal Services units should be assigned to assembly areas, and remain if the facility transitions to a shelter.

If the event causes little or no damage to habitations, residents may be allowed to return to their homes after the danger has passed.

If significant damage has occurred, re-entry may be delayed until the conclusion of Search, Rescue and Recovery efforts, and the mitigation of hazards.

Mass Transit Support for Evacuation

While the majority of the population of the potential tsunami inundation area will be able to walk to safety, there are some individuals, families and facilities that will need assistance in moving out of the hazard area.

Provided there is enough time before the predicted arrival of the event, an evacuation order and instructions will be issued. Ideally, mass transit resources will be advised of the need to report to assembly areas prior to the issuance of an evacuation order, to facilitate their access to areas within the evacuation zone. Those resources will be directed to identified assembly areas with both large group capacity and the space for large vehicles to turn around. Egress routes will generally be the published evacuation routes, which will (probably) mean each vehicle will only be able to accomplish one trip, due to traffic congestion.

Individual facilities (licensed care, rehabilitation, schools and other group care establishments) are either required by regulation to provide disaster plans (including evacuation and relocation), or should make advance arrangements to evacuate their facilities (while providing required care and supervision) with other resources.

The following sites have been identified as assembly points for access to mass transit resources in the event of a tsunami evacuation:

- # 1 Ventura: (to Ventura College) Schooner & Anchors Way (Ventura Harbor Mobile Home Park)
- # 2 Ventura: (to Ventura College) Seaward and Harbor (Von's Parking Lot)
- # 3 North Oxnard: (to Southwest Community Park) 5th & Harbor (Mobile Home Park)
- # 4 North Hollywood Beach: (to Southwest Community Park) Mandalay Beach School parking lot
- # 5 Channel Islands/Hollywood Beach:(to Southwest Community Park) Harbor Landing/Marine Emporium Parking Lot
- # 6 South Hollywood Beach: (to Southwest Community Park) Harbor Boulevard and Albacore Way
- # 7 Silver Strand Beach: (to Southwest Community Park) Channel Islands Beach Park parking lot (Kiddie Beach)
- # 8 Port Hueneme: (to Oxnard College) Tradewinds Shopping Center Parking Lot
- # 9 Port Hueneme: (to Oxnard College) Scott & Ventura Road (Senior Center)

EVACUATION ROUTES

If you feel ground shaking, hear a loud ocean roar, or notice water receding unusually far exposing the sea floor, immediately move to high ground or inland.

North Coast/Rincon: (Page 18)

- Everyone North of the Ventura River should proceed Northwest to Bates Rd, North (right) on Bates Rd out of the inundation area and await further instructions.

Ventura Sector 1: (Page 19)

- Visitors to the Ventura River RV Park, proceed East (right) on Main Street, Northeast (left) on Loma Vista Rd to **Ventura Community College**.
- Visitors to the Ventura County Fairgrounds and beach, proceed North on Figueroa St, East (right) on Thompson Blvd, Northeast (left) on Telegraph Rd to **Ventura Community College**.
- Visitors to the Promenade, Ventura Pier, and Ventura Beach, proceed North on California, East (right) on Thompson Blvd, Northeast (left) on Telegraph Rd to **Ventura Community College**.

Ventura Sector 2: (Page 20)

- Pierpont residents, proceed to Harbor Blvd, turn West (left) on Harbor Blvd, North (right) on San Jon Rd, East (right) on Thompson Blvd, Northeast (left) on Telegraph Rd to **Ventura Community College**.

Ventura Sector 3: (Page 21)

- Ventura Keys residents North of Beachmont, proceed to Harbor Blvd, go West (left) on Harbor Blvd to Seward Av, turn North (right) on Seward Av, East (right) on Thompson Blvd, Northeast (left) on Telegraph Rd to **Ventura Community College**.

Ventura Sector 4: (Page 22)

- Ventura Keys residents South of Beachmont, proceed to Harbor Blvd, go South (right) on Harbor Blvd to Olivas Park Dr., turn East (left) on Olivas Park Dr., North (left) on Victoria, West (left) on Telegraph Rd to **Ventura Community College**.
- Residents, businesses, and visitors, exit via Spinnaker Dr., cross Harbor Blvd to Olivas Park and continue East to Victoria, go North (left) on Victoria, West (left) on Telegraph Rd to **Ventura Community College**.

City of Oxnard/Hollywood Beach: (Page 23)

- McGrath State Beach visitors will proceed South (right) on Harbor Blvd, East (left) on Gonzales Rd, South (right) on Victoria Av, and East (left) on 5th St to **Southwest Community Park**.
- Oxnard Shores residents North of Wooley will proceed North on Harbor Blvd, East (right) on 5th St to **Southwest Community Park**.
- Oxnard Shores residents South of Wooley Rd will proceed North on Harbor Blvd, East (right) on Wooley Rd, North (left) on Victoria Av, East (right) on 5th St to **Southwest Community Park**.

City of Oxnard/Silverstrand South: (page 24)

- Silverstrand residents proceed Northeast to Island View, Northwest to Victoria Av, East (right) on Channel Islands Blvd until you reach **Oxnard College**.
- Residents on Peninsula Rd proceed North to Channel Islands Blvd, East (right) on Channel Islands, North (left) on Victoria Ave, East (right) on Wooley Rd, and North (left) on Patterson Rd to **Southwest Community Park**.
- Hollywood Beach Residents proceed North to Channel Islands Blvd, East (right) on Channel Islands, North (left) on Victoria Ave, East (right) on Wooley Rd, and North (left) on Patterson Rd to **Southwest Community Park**.

City of Port Hueneme/West Strand: (Page 25)

- For those leaving the Port of Hueneme, travel East on Hueneme Rd, North (left) on Ventura Road, and then East (right) on Pleasant Valley Rd until you reach **College Park**.
- Hueneme Beach residents South of Perkins Rd will travel North on Perkins Rd, go East (right) on Hueneme Rd, North (left) on Saviers Rd, and then East (right) on Pleasant Valley Rd until you reach **College Park**.
- Hueneme Beach residents North of Perkins Rd will travel North on Surfside Dr., North (right) on Ventura Rd, East (right) on Hueneme Rd, North (left) on Saviers Rd, and then East (right) on Pleasant Valley Rd until you reach **College Park**.

NBVC Port Hueneme Installation: (Page 26)

- People in the area east of Pacific Road and south of 34th Avenue will proceed to 34th Avenue and turn right. Exit the installation via the Bard Gate and turn left onto Ventura Road. Proceed on Ventura Road to Channel Islands Blvd. and turn right Proceed on Channel Islands Blvd to **College Park**.
- People in the area east of Pacific Road Gate and north of 34th Avenue will proceed to 23rd Avenue and exit the installation via the Sunkist Gate. Turn left onto Ventura Road and Proceed to Channel Islands Blvd. Turn right and proceed on Channel Islands Blvd to **College Park**.

- People in the area west of Pacific Road will proceed to Patterson Road and exit the installation via the Patterson Gate. Turn right onto Channel Islands Blvd., and proceed on Channel Islands Blvd to **College Park**.

NBVC Point Mugu Installation: (Page 27)

- Residential and Admin areas will exit via Gate 1 or 2 and proceed North (right) on Wood Rd, East (right) on Hueneme Rd, Northeast (left) on Lewis Rd, Southeast (right) on University Dr until you reach **California State University Channel Islands**.
- Industrial areas will exit Las Posas Gate and proceed North on Las Posas, East (right) on Hueneme Rd, Northeast (left) on Lewis Rd, Southeast (right) on University Dr until you reach **California State University Channel Islands**.

-

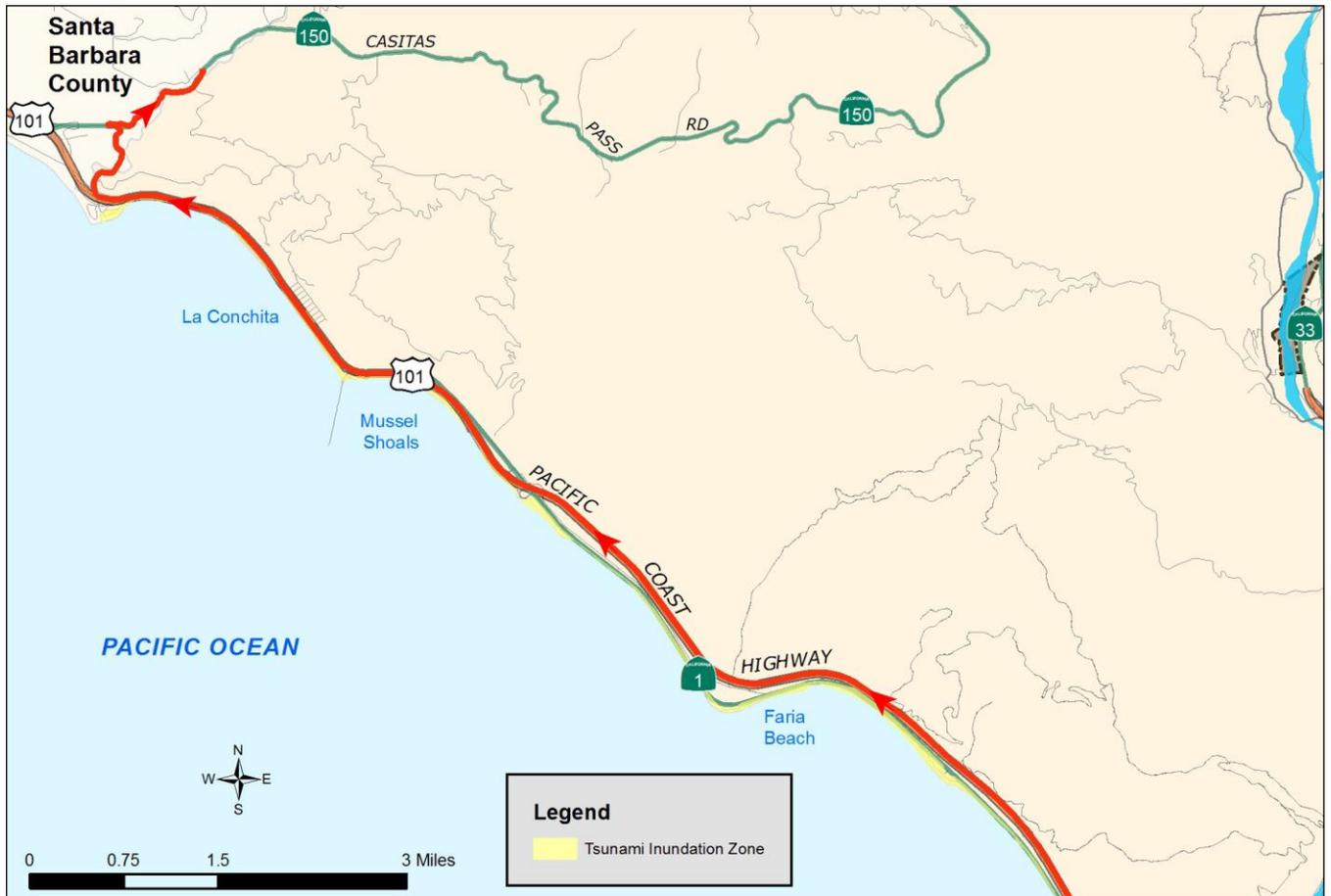
Mugu Rock to Las Posas Road: (Page 28)

- People in this area will be instructed to travel north on Pacific Coast Highway and continue on the Pacific Coast Highway to Fifth Street.

Southern Ventura County Line to Mugu Rock: (Page 28)

- Instruction will be for people in this area to use available roads to travel uphill. Evacuees should remain aware of aftershocks that could dislodge rocks or create landslide hazards.
- People North of the Ventura/Los Angeles County Line, South of Yerba Buena Road should travel North to Yerba Buena, turn right and go no further than the Ellice Street assembly area.

North Coast / Rincon:



Instructions:

- Everyone North of the Ventura River should proceed Northwest to Bates Rd, North (right) on Bates Rd out of the inundation area and await further instructions.

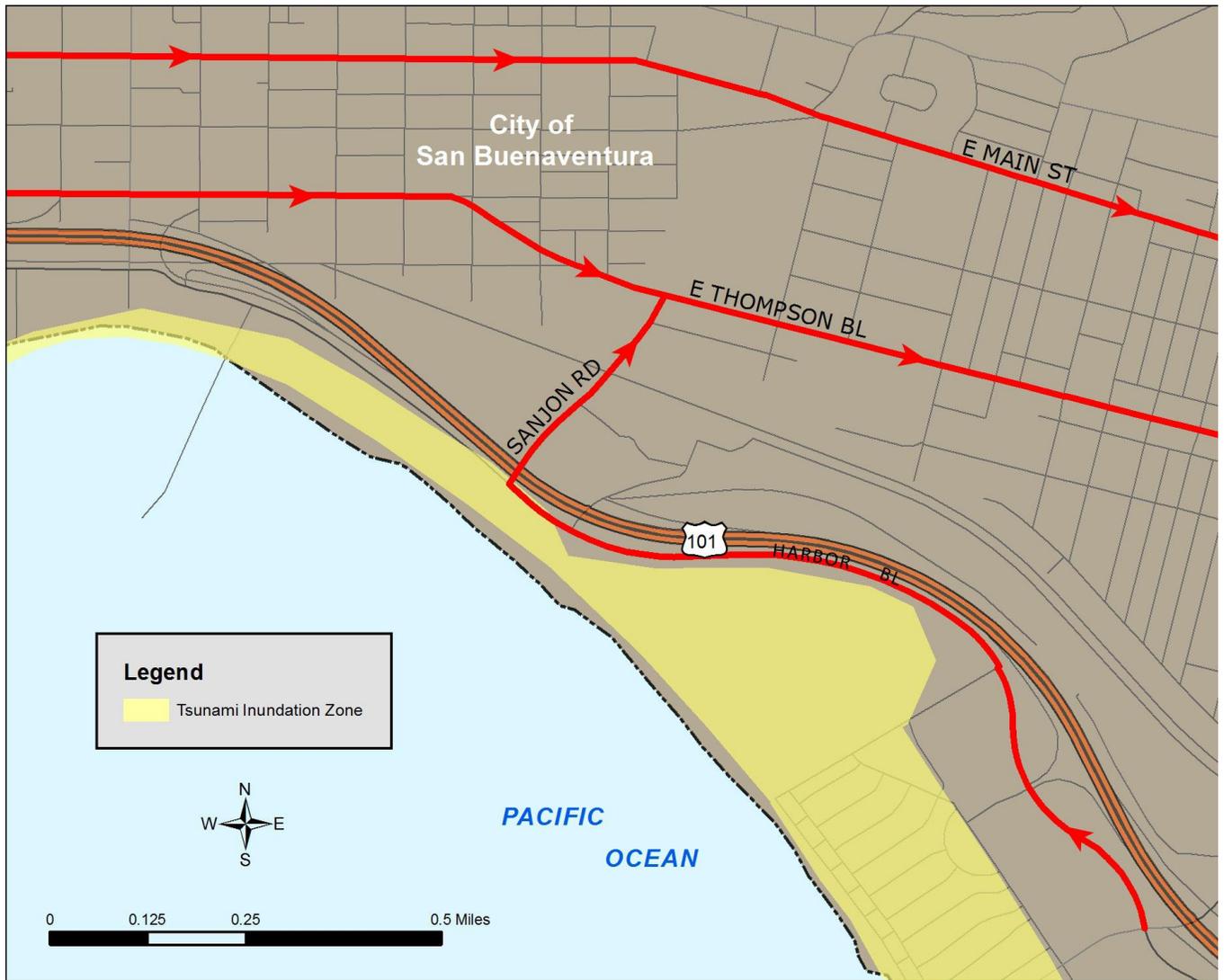
Ventura (Sector 1):



Instructions:

- Visitors to the Ventura River RV Park, proceed East (right) on Main Street, Northeast (left) on Loma Vista Rd to **Ventura Community College**.
- Visitors to the Ventura County Fairgrounds and beach, proceed North on Figueroa St, East (right) on Thompson Blvd, Northeast (left) on Telegraph Rd to **Ventura Community College**.
- Visitors to the Promenade, Ventura Pier, and Ventura Beach, proceed North on California, East (right) on Thompson Blvd, Northeast (left) on Telegraph Rd to **Ventura Community College**.

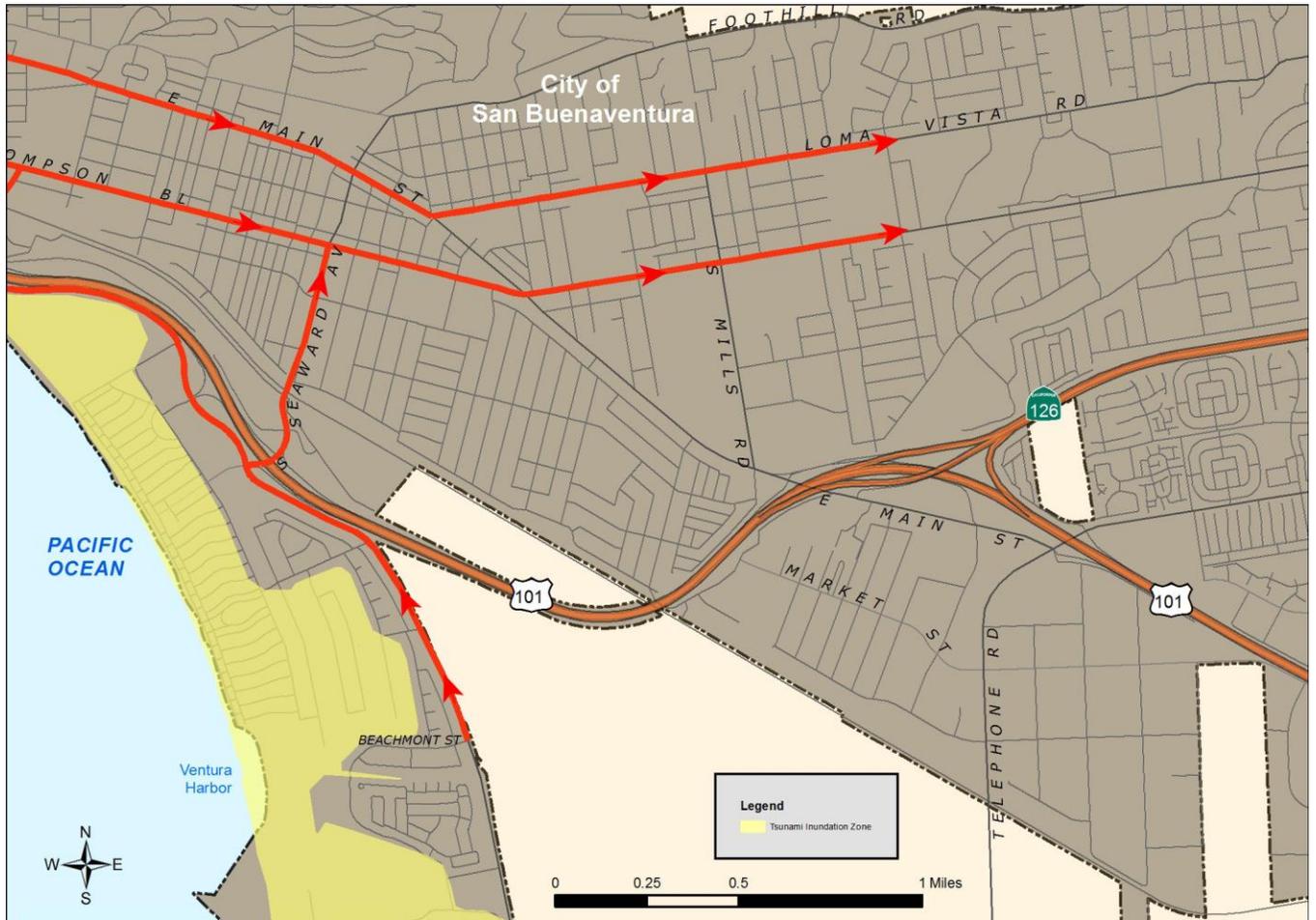
Ventura (Sector 2):



Instructions:

- Pierpont residents, proceed to Harbor Blvd, turn West (left) on Harbor Blvd, North (right) on San Jon Rd, East (right) on Thompson Blvd, Northeast (left) on Telegraph Rd to **Ventura Community College**.

Ventura (Sector 3):



Instructions:

- Ventura Keys residents North of Beachmont, proceed to Harbor Blvd, go West (left) on Harbor Blvd to Seward Av, turn North (right) on Seward Av, East (right) on Thompson Blvd, Northeast (left) on Telegraph Rd to **Ventura Community College**.

Ventura (Sector 4):



Instructions:

- Ventura Keys residents South of Beachmont, proceed to Harbor Blvd, go South (right) on Harbor Blvd to Olivas Park Dr., turn East (left) on Olivas Park Dr., North (left) on Victoria, West (left) on Telegraph Rd to **Ventura Community College**.
- Residents, businesses, and visitors, exit via Spinnaker Dr., cross Harbor Blvd to Olivas Park and continue East to Victoria, go North (left) on Victoria, West (left) on Telegraph Rd to **Ventura Community College**.

Oxnard / Hollywood Beach:



Instructions:

- McGrath State Beach visitors will proceed South (right) on Harbor Blvd, East (left) on Gonzales Rd, South (right) on Victoria Av, and East (left) on 5th St to **Southwest Community Park**.
- Oxnard Shores residents North of Wooley will proceed North on Harbor Blvd, East (right) on 5th St to **Southwest Community Park**.
- Oxnard Shores residents South of Wooley Rd will proceed North on Harbor Blvd, East (right) on Wooley Rd, North (left) on Victoria Av, East (right) on 5th St to **Southwest Community Park**.

Oxnard/Silverstrand (SOUTH):



Instructions:

- Silverstrand residents proceed Northeast to Island View, Northwest to Victoria Av, East (right) on Channel Islands Blvd until you reach **College Park**.
- Residents on Peninsula Rd proceed North to Channel Islands Blvd, East (right) on Channel Islands, North (left) on Victoria Ave, East (right) on Wooley Rd, and North (left) on Patterson Rd to **Southwest Community Park**.
- Hollywood Beach Residents proceed North to Channel Islands Blvd, East (right) on Channel Islands, North (left) on Victoria Ave, East (right) on Wooley Rd, and North (left) on Patterson Rd to **Southwest Community Park**.

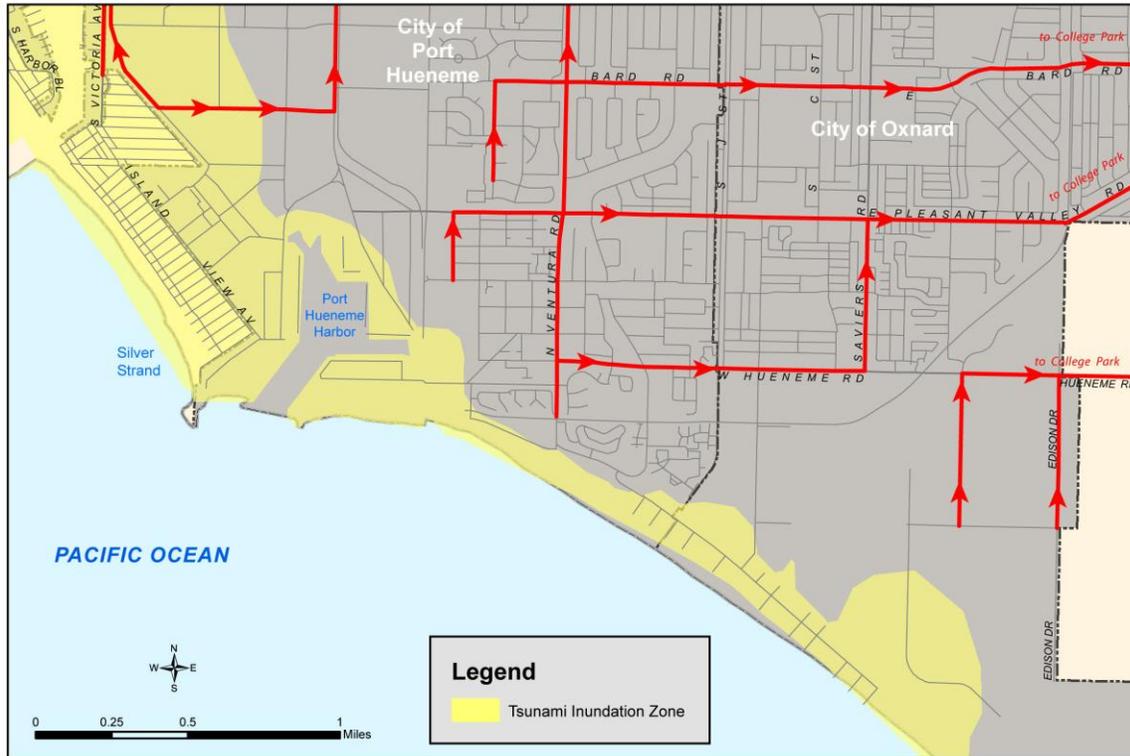
South Oxnard, City of Port Hueneme / West Strand:



Instructions:

- For those leaving the Port of Hueneme, travel East on Hueneme Rd, North (left) on Ventura Road, and then East (right) on Pleasant Valley Rd until you reach **College Park**.
- Hueneme Beach residents South of Perkins Rd will travel North on Perkins Rd, go East (right) on Hueneme Rd, North (left) on Saviers Rd, and then East (right) on Pleasant Valley Rd until you reach **College Park**.
- Hueneme Beach residents North of Perkins Rd will travel North on Surfside Dr., North (right) on Ventura Rd, East (right) on Hueneme Rd, North (left) on Saviers Rd, and then East (right) on Pleasant Valley Rd until you reach **College Park**.

South Oxnard & NBVC-CBC Port Hueneme Installation:



Instructions:

- People in the area east of Pacific Road and south of 34th Avenue will proceed to 34th Avenue and turn right. Exit the installation via the Bard Gate and turn left onto Ventura Road. Proceed on Ventura Road to Channel Islands Blvd. and turn right Proceed on Channel Islands Blvd.
- People in the area east of Pacific Road Gate and north of 34th Avenue will proceed to 23rd Avenue and exit the installation via the Sunkist. Turn left onto Ventura Road and Proceed to Channel Islands Blvd. Turn right and proceed on Channel Islands Blvd.
- People in the area west of Pacific Road will proceed to Patterson Road and exit the installation via the Patterson Gate. Turn right onto Channel Islands Blvd., and proceed on Channel Islands Blvd.

NBVC-NAS Point Mugu Installation:



Instructions:

- Residential and Admin areas will exit via Gate 1 or 2 and proceed North (right) on Wood Rd, East (right) on Hueneme Rd, Northeast (left) on Lewis Rd, Southeast (right) on University Dr until you reach **California State University Channel Islands**.
- Industrial areas will exit Las Posas Gate and proceed North on Las Posas, East (right) on Hueneme Rd, Northeast (left) on Lewis Rd, Southeast (right) on University Dr until you reach **California State University Channel Islands**.

Mugu Rock to Las Posas Road:

- People in this area will be instructed to travel north on Pacific Coast Highway and continue on the Pacific Coast Highway to Fifth Street.

Southern Ventura County Line to Mugu Rock:



- People in this area should use available roads to travel uphill. Evacuees should remain aware of aftershocks that could dislodge rocks or create landslide hazards.
- People North of the Ventura/Los Angeles County Line and South of Yerba Buena Road should travel North to Yerba Buena, turn right and go no further than the Ellice Street assembly area.