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Preparedness Indicators How to achieve, challenges, solution

5.3 Signage – Type, Sizes, Colors, Placement

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Why Public Display is Important



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Public display signage should provide information about tsunami risk information as well as education on how to respond in the event of a tsunami

One of the most visible way to educate the public about tsunami hazard in the coastal zone is by displaying signboards

The signboards will contribute to public awareness of the risk posed by tsunamis and a better understanding of what should be done by the community in response to the event

It is critical that residents and visitors (tourists) be aware of tsunami hazard zones, evacuation routes and safe zones in coastal areas.

Two Types of Public Display Information



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1. Signage to inform when in a tsunami hazard zone and route to follow in an emergency evacuation. Should be simple, clear, quick to read and easy to understand
2. Signage that provides more information about tsunami risk. More detailed and should be read outside an emergency situation



1. Evacuation signage examples



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Tsunami hazard zone
Signage to inform when
in or entering or leaving
a tsunami hazard zone



Evacuation routes



Assembly/Meeting zones



1. International Standard Organization



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ISO 20712-1:2008 specifies the water safety sign originals that may be scaled for reproduction and application purposes.

ISO 3864-1 The shape and colour standards required for safety signs, and

ISO 3864-3 for graphical symbols.



ISO approved signs showing tsunami evacuation zone, horizontal shelter and vertical shelter.

1. Example of signs painted on road, New Zealand



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Note the maintenance required to repair the signs due to wear and tear caused by traffic



1. Consideration



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Evacuation signage should be underpinned by community engagement to ensure clear understanding

The signage should be simple and unambiguous

Signage will contribute to public awareness and provide a better understanding of what action the community should take in response to an event

Multi-hazard signs and displays that include the tsunami hazard are adequate for this indicator

Signage should align with national and local policies

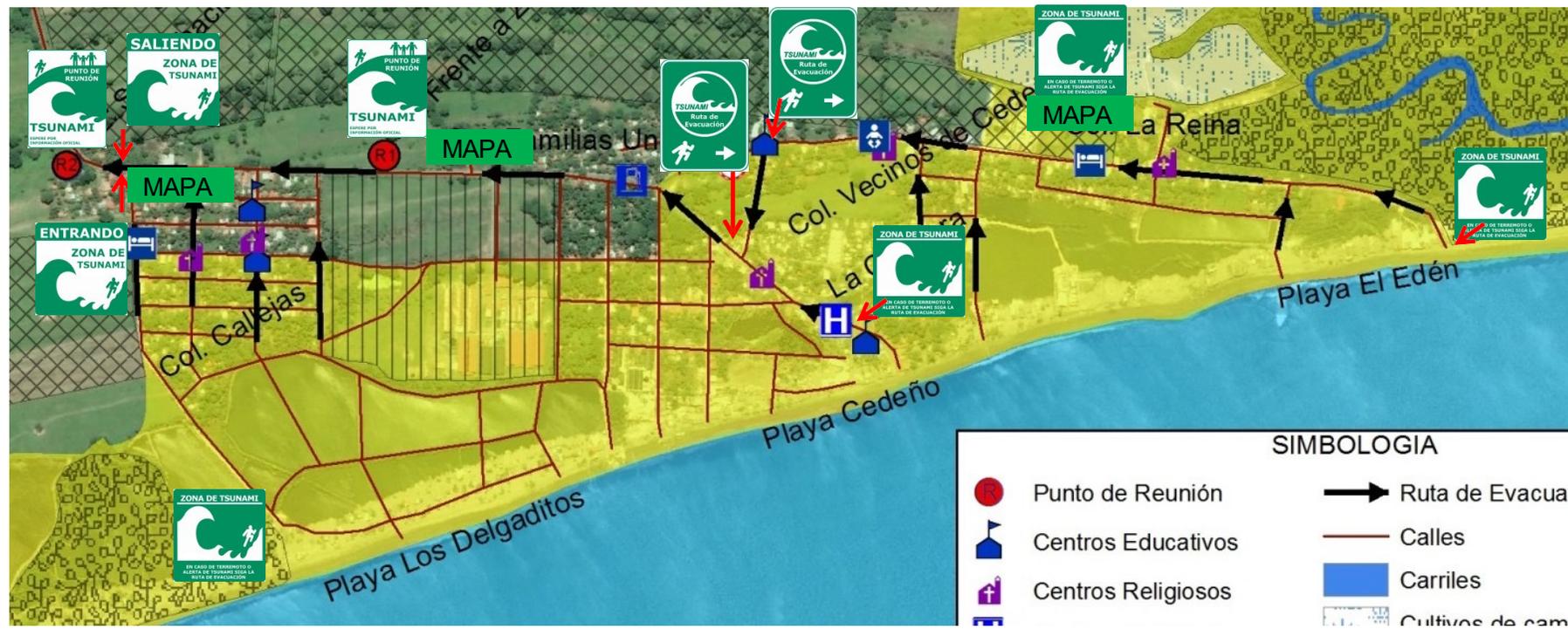
Signage should comply with national and/or international standards

1. Signage Plan Cedeño, Honduras



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1. Technical specifications (examples)

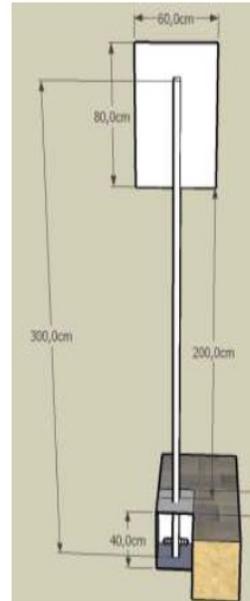


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- Signage for the St John's City Tsunami Drill December, 2019

-----St-Johns-City-Drill-Signage-----		
Signage-Art	Single-Type	General-Information
	Tsunami-Hazards-Zone	Width/Height(ins)-24-X-24 Materials-PVC-foam-board Number-of-Signs-to-be-installed:
	Evacuation-Routes 35	Width/Height(ins)-14.5-X-24 Materials-PVC-foam-board Number-of-Signs-to-be-installed:
	Safe-Zone-Signs 25	Width/Height(ins)-18-X-24 Materials-PVC-foam-board Number-of-Signs-to-be-installed:



#	DESCRIPCION	SEÑALÉTICA	COMENTARIOS
1.º	Rótulos de Zona de amenaza a Tsunami		Doble cara 60-cmX-80-cm Engineering grade
2.º	Rótulo/Ruta de Evacuación-continuar-derecho		Doble cara 60-cmX-80-cm Engineering grade
3.º	Rótulo/Ruta de Evacuación-hacia-la-izquierda		Una-sola-cara 60-cmX-80-cm Engineering grade

2. Public information signage



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- Designed to raise awareness in community
- Community should be responsible for designing, but can't do it by themselves. Must be a collaborative effort between the community, local authorities, DMO, NTWC, universities etc.
- Can contain information about tsunami risk in the area, tsunami history and facts. Map of tsunami hazard zone can also be included

2. Example of Tsunami Public Information New Zealand



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Tsunami - Are you ready?

What is a tsunami?

Tsunamis are a series of waves most commonly generated by major disturbances of the sea floor, usually caused by undersea earthquakes, landslides, or volcanic eruption. Tsunamis can occur at any season of the year and at any time, day or night. Some tsunamis can be very large and can rapidly and violently inundate coastlines, causing loss of life and property damage. Others can be small and dangerous to those near or in the water.

How an earthquake-generated tsunami forms

Tsunami history

At least three tsunamis with run-up heights of 10 m or more have occurred in the last 165 years. Two of these tsunamis were generated by local earthquakes (1855 and 1947), the other by a large South American earthquake (1868). Tsunamis with run-up height of 30 m or more have been found in the geological (prehistoric) record of the last 6,000 years. New Zealand also has a big plate boundary faultline offshore east of the North Island, similar to the boundary offshore of Indonesia which caused the Indian Ocean tsunami in 2004.

The 1855 earthquake, which ruptured the Wairarapa fault, generated a tsunami with a maximum known run-up of 10 m in eastern Palliser Bay and up to 45 m in several locations in Wellington and along the northern Marlborough coast.

In 26 March 1947 tsunamis were experienced on the coast north of Gisborne, where the waves reached 10 m above sea-level, a small part of Hawke's Bay north of Mahia Peninsula was also affected.

In May 1960 a massive magnitude 9.5 earthquake in southern Chile generated a Pacific-wide tsunami that caused the deaths of thousands in Chile and several hundreds in Hawaii, Japan and the Philippines. It also resulted in damage throughout New Zealand. Water levels possibly reached over 4 m above high tide mark, even though this tsunami occurred at low tide. It would have been far more damaging if it had occurred at high tide.

Tsunami Facts

New Zealand's entire coast is at risk of tsunami.

- The biggest tsunamis in New Zealand are likely to be caused by events close to our shore and can arrive within only a few minutes.
- Some tsunamis can travel thousands of kilometres and still be big enough on arrival here cause loss of life and damage.
- The first waves may not be the largest
- Large waves may come after a series of small waves. The largest waves from distant sources may take many hours to arrive.
- There may be many waves separated by up to an hour, or more.
- Tsunami can travel around corners, up coastal rivers and streams.
- Over land tsunamis pick up debris and can knock down houses. The force of tsunamis is enormous.
- Harbours, bays and inlets often amplify tsunami waves.

Remains of a 4-room cottage, in which three people survived three large tsunami surges on 26 March 1947. In the distance, the tsunami reached 10 m vertically above sea-level, wrenching a bridge from its foundations, and driving it 500 m upstream. (NZ Weekly News, 2 April 1947)

In Napier 50 m of the footbridge to West Shore was torn away and the power and gas lines along it were broken. 17000 m of sand were scoured from the boat harbour. (Civil Telegraph, date unknown, prob. 24 Mar 1949)

DRAFT TSUNAMI EVACUATION ZONES

DISCLAIMER: This map is a DRAFT of one intended for general information only. It was developed for the use of the National Emergency Management Organisation (NEMO) and is not intended for use in any other context. It is the responsibility of the user to ensure that they are aware of the limitations of this map and to use it accordingly.

Evacuation zones: This map is a DRAFT of one intended for general information only. It was developed for the use of the National Emergency Management Organisation (NEMO) and is not intended for use in any other context. It is the responsibility of the user to ensure that they are aware of the limitations of this map and to use it accordingly.

Tsunami Characteristics

History of previous tsunamis in region

Evacuation zone map

2. Example of Tsunami Public Information Australia



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2. Example of Tsunami Public Information Puerto Rico



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2. Example of Tsunami Public Information Indonesia



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2. Example of Tsunami Public Information

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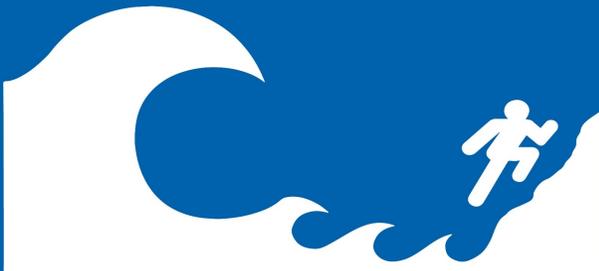


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 2022 - 2026

Desa Panggarangan Banten, Indonesia is Tsunami Ready



**IN CASE OF STRONG
OR LONG EARTHQUAKE
OR ANY OFFICIAL MESSAGE,
GO TO HIGH GROUND OR INLAND**









The recognition does not imply approval or promise that a community can or will perform at a certain level in case of tsunami. Tsunami Ready recognition does not mean that a community is tsunami proof. UNESCO-IOC recognizes that the community have built their capacity and implemented measures in accordance to the agreed indicators of UNESCO-IOC Tsunami Ready Programme, and that they will continue to maintain and ensure the sustainability of this preparedness level.


 2022 - 2026

Kelurahan Tanjung Benoa Bali, Indonesia is Tsunami Ready



**IN CASE OF STRONG OR
LONG EARTHQUAKE OR
ANY OFFICIAL MESSAGE, GO TO
THE 3RD FLOOR OR ABOVE OF THE
NEAREST CONCRETE BUILDING**









The recognition does not imply approval or promise that a community can or will perform at a certain level in case of tsunami. Tsunami Ready recognition does not mean that a community is tsunami proof. UNESCO-IOC recognizes that the community have built their capacity and implemented measures in accordance to the agreed indicators of UNESCO-IOC Tsunami Ready Programme, and that they will continue to maintain and ensure the sustainability of this preparedness level.



Summary



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- ✓ The most visible way to educate the public about tsunami hazard is by displaying signboards. These should provide information about tsunami risk and education on how to respond in the event of a tsunami
- ✓ There are two types of public displays of tsunami information:
 1. Signage to inform when in a tsunami hazard zone and route to follow in an emergency evacuation. The signs should be simple, quick to read, clear and easy to understand
 2. Signage that provides information about tsunami risk. These signs are more detailed and are designed to be read outside an emergency situation to raise awareness
- ✓ Evacuation signage should be underpinned by engagement with the community to ensure clear understanding
- ✓ Evacuation signage should align with national and local policies and should comply with national and/or international standards
- ✓ Public information signage should contribute to public awareness and provide an understanding of what action to take in response to tsunami warnings.
- ✓ The design of public information signage should be a collaborative effort between the community, local authorities, the LDMO, NTWC and other relevant stakeholders

Vinaka Vaka Levu

For more information:
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