



UNESCO-IOC Tsunami Ready Recognition

Response Plans



UNESCO-IOC Tsunami Ready Indicators



TSUNAMI READY INDICATORS	
I	ASSESSMENT (ASSESS)
1	ASSESS-1. Tsunami hazard zones are mapped and designated.
2	ASSESS-2. The number of people at risk in the tsunami hazard zone is estimated.
3	ASSESS-3. Economic, infrastructural, political, and social resources are identified.
II	PREPAREDNESS (PREP)
4	PREP-1. Easily understood tsunami evacuation maps are approved.
5	PREP-2. Tsunami information including signage is publicly displayed.
6	PREP-3. Outreach and public awareness and education resources are available and distributed.
7	PREP-4. Outreach or educational activities are held at least three times a year.
8	PREP-5. A community tsunami exercise is conducted at least every two years.
III	RESPONSE (RESP)
9	RESP-1. A community tsunami emergency response plan is approved.
10	RESP-2. The capacity to manage emergency response operations during a tsunami is in place.
11	RESP-3. Redundant and reliable means to timely receive 24-hour official tsunami alerts are in place.
12	RESP-4. Redundant and reliable means to timely disseminate 24-hour official tsunami alerts to the public are in place.

Reminder - Evacuation Planning

Context setting

Before we can:

- Commit to PREP 3 & 4 (Outreach & Education), and
- Commit to PREP 5 (Tsunami Exercises),

We need to:

- Plan for evacuations in the community

Community Evacuation Plans:

- Are part of Community Response Plans, which in turn -
- Are informed by National Tsunami Response Plans

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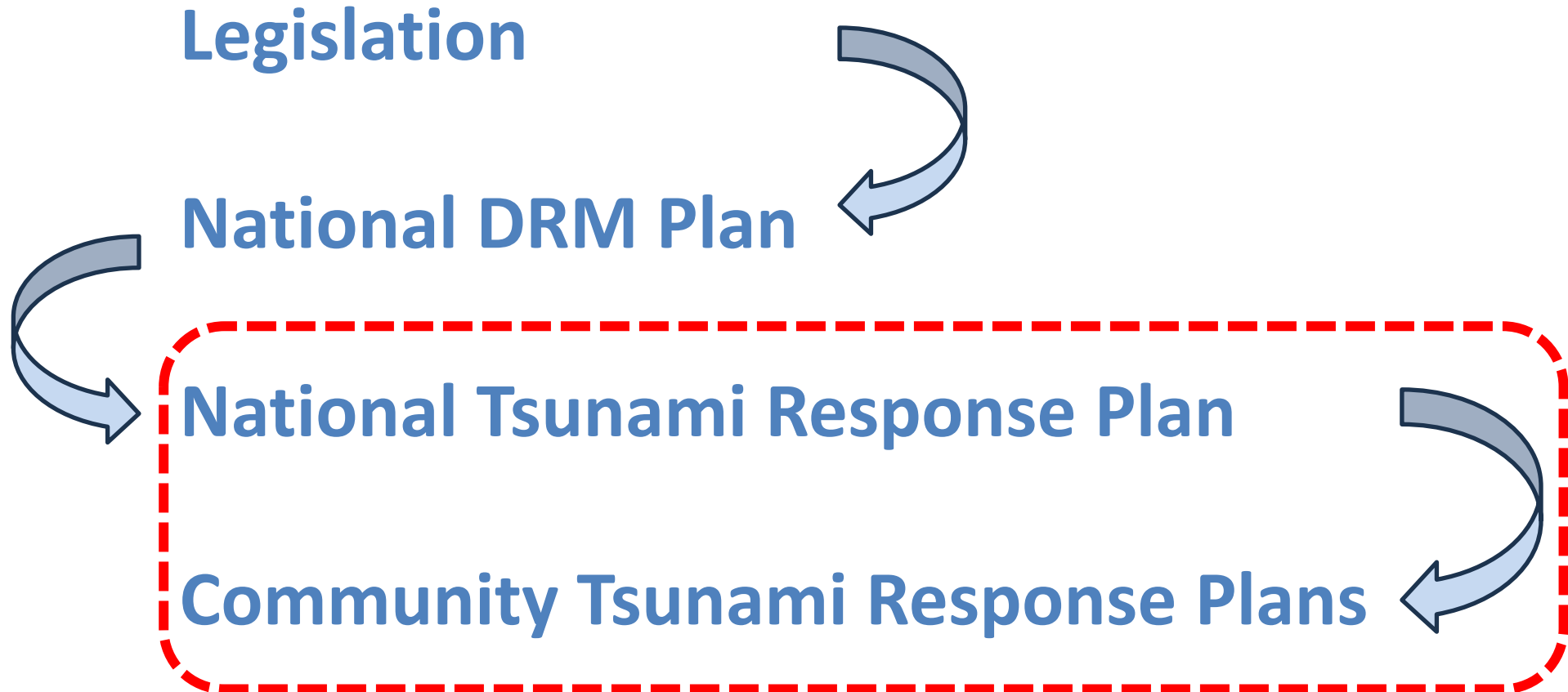


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Policy Setting: Tsunami Response Plans

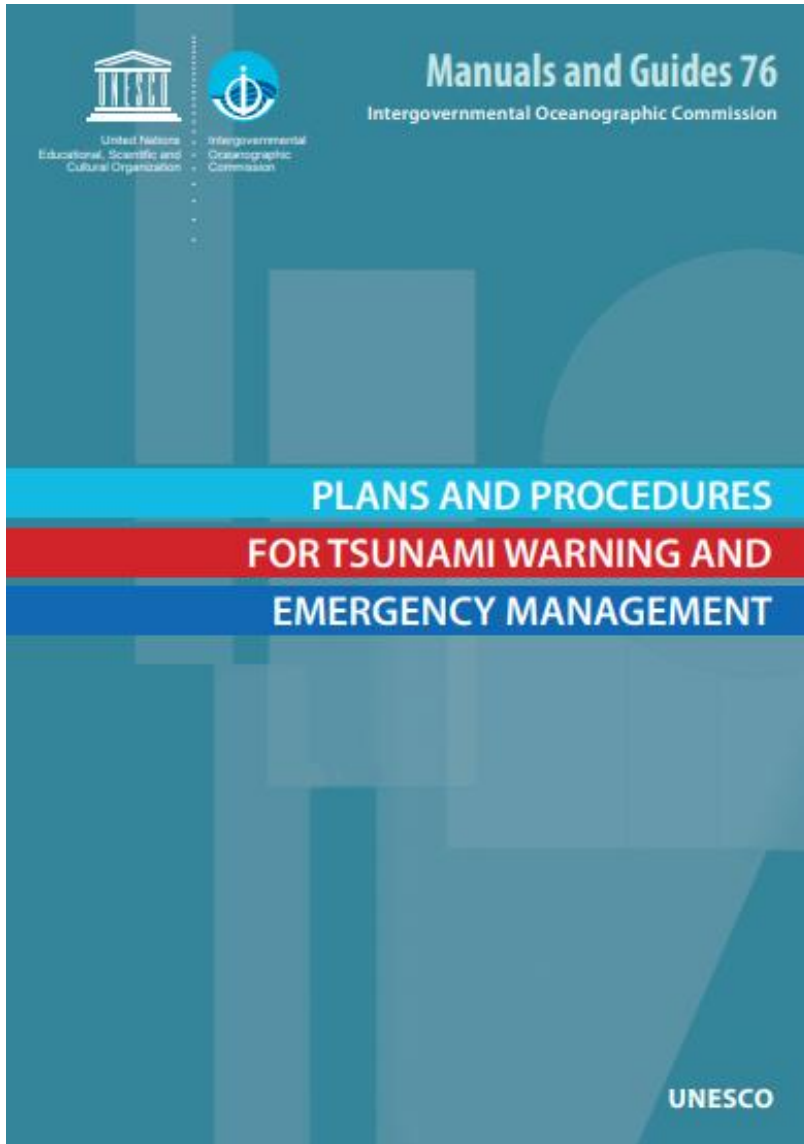




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Commission

Tsunami Response Plans: Guidelines



Tsunami Emergency Planning in Australia



[Link](#)

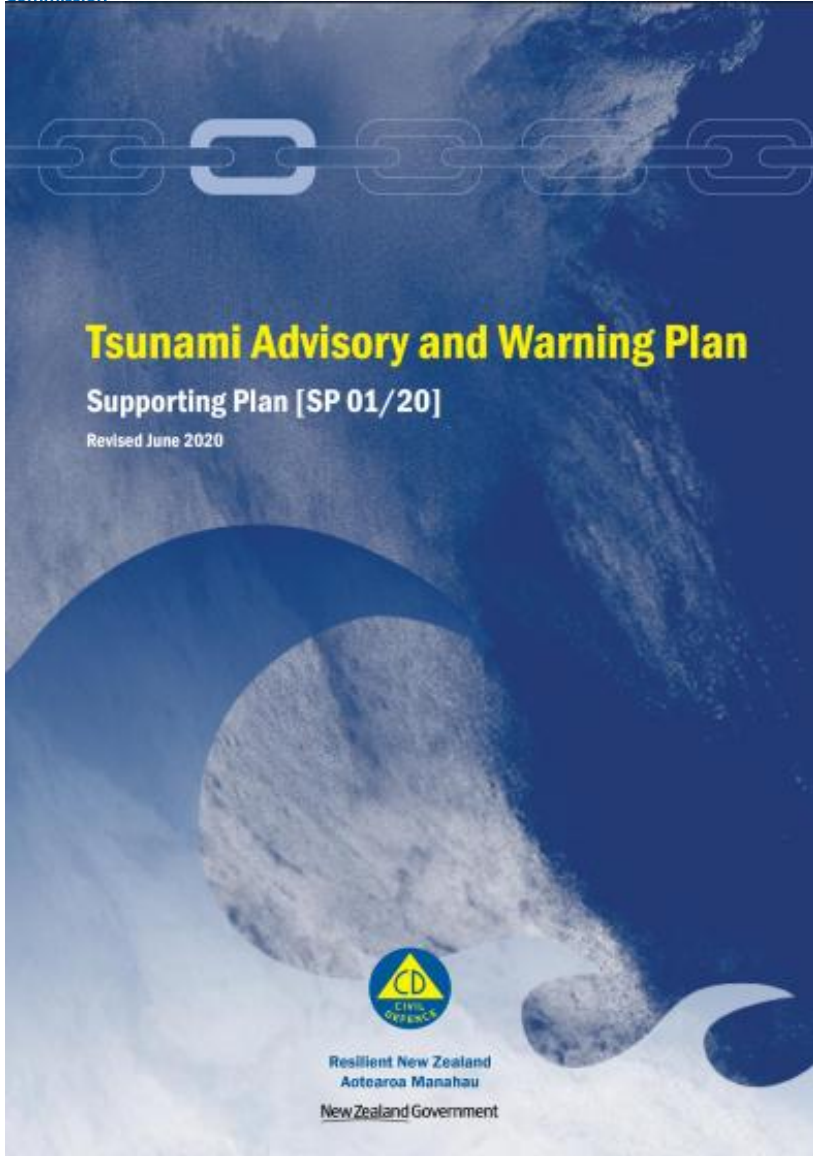
Chapter 5: Tsunami warning systems	23
Key points	24
Introduction	24
Australian Tsunami Warning System: roles and responsibilities	25
Tsunami warning procedures	26
Tide impact on warnings and tsunami	29
Communicating tsunami warnings to the public	29
Communication channels	30
Australian Warning System	31
Chapter 6: Preparedness for effective response	33
Planning considerations for response	34
Crisis management	36
Tsunami evacuation	37
Key considerations for tsunami emergency planning	42
Tsunami signage	43
Capability development	43
Community engagement for tsunamis	43
Tsunami exercising	44



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Tsunami Response Plans: Examples

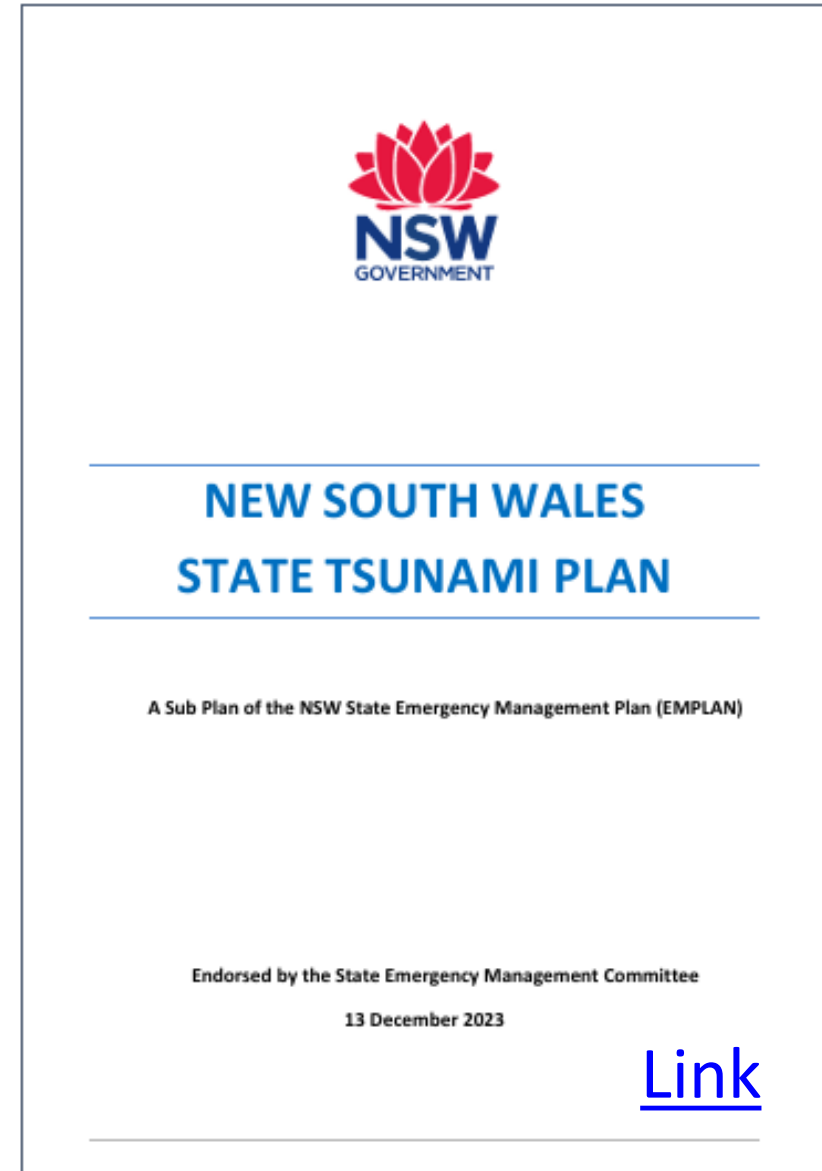


Section 1 Introduction	1
1.1 About this plan.....	1
1.2 Scope.....	1
1.3 Use of this plan.....	2
1.4 Testing of this plan.....	2
1.5 Other documents relevant to this plan.....	2
Section 2 Responsibilities	3
2.1 NEMA.....	3
2.2 GNS Science and GeoNet.....	3
2.3 Pacific Tsunami Warning Center (PTWC).....	4
2.4 Airways Corporation and MetService.....	4
2.5 CDEM Groups.....	5
2.6 Media.....	5
2.7 Maritime New Zealand.....	5
2.8 Other agencies.....	5
Section 3 Initial tsunami threat assessment	7
3.1 Receipt of tsunami information.....	7
3.2 Initial assessment – regional and distant-source tsunami.....	7
3.3 Initial assessment – local-source tsunami.....	7
3.4 "Response indicators" for NEMA.....	8
3.5 Use of social media and NEMA website.....	9
Section 4 Further assessment of the tsunami	11
4.1 Estimated times of arrival.....	11
4.2 Threat estimation.....	12
4.3 Coastal region boundary locations.....	13
4.4 Threat maps.....	14
Section 5 Types of notifications from NEMA	18
5.1 Introduction.....	18
5.2 National Advisory: No Tsunami Threat to New Zealand.....	19
5.3 National Advisory: Earthquake Being Assessed.....	19
5.4 National Advisory: Large Pacific Earthquake Being Assessed.....	20
5.5 National Advisory: Earthquake – No Tsunami Threat to New Zealand.....	20
5.6 National Advisory: Tsunami Activity – Expect strong and unusual currents and unpredictable surges at the shore.....	21
5.7 National Warning: Tsunami Threat.....	22
5.8 National Warning: Tsunami Threat to Land and Marine Areas.....	23
5.9 Tsunami cancellation messages.....	24
5.10 Requests for broadcast, or termination of broadcast.....	24
Section 6 Public tsunami notifications using Emergency Mobile Alert	26
6.1 Emergency Mobile Alert system.....	26
6.2 Use of EMA during a local-source tsunami.....	26

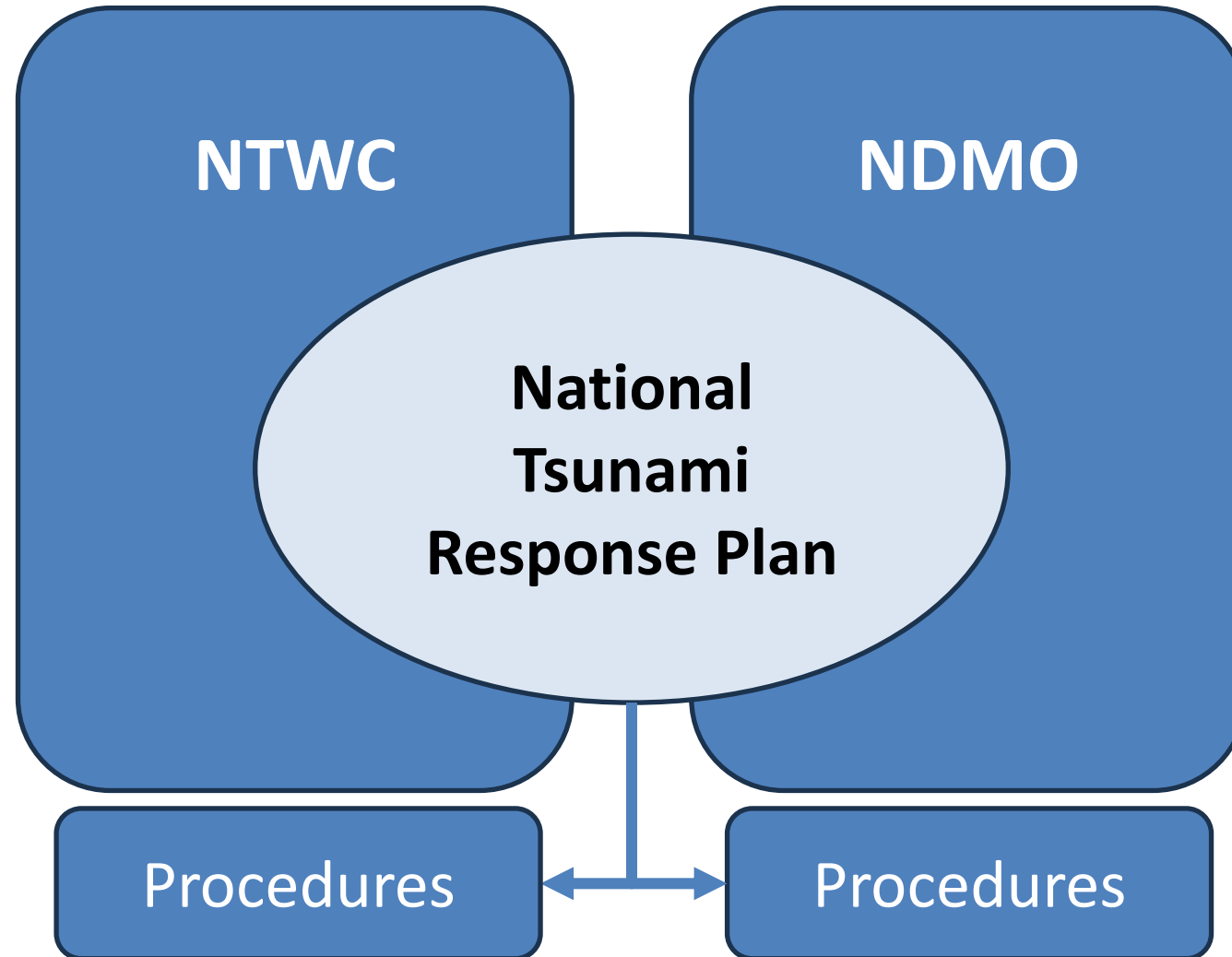
6.3 Use of EMA during a regional-source tsunami.....	27
6.4 Use of EMA during a distant-source tsunami.....	28
Section 7 Appendices	29
Appendix A Agency action guides.....	30
Appendix B Tsunami categories and threat.....	35
Appendix C Glossary.....	45

[Link](#)

Tsunami Response Plans: Examples



National Tsunami Response Plan



National Tsunami Response Plan: Components



1. Context
2. Responsibilities
3. Tsunami Warning
4. Tsunami Emergency Response
5. Tsunami Awareness

National Tsunami Response Plan: Components



1. Context

- i. Purpose (Plan to be used by...)
- ii. Hazard description (brief summary):
 - a. Distant sources
 - b. Regional sources
 - c. Local sources



National Tsunami Response Plan: Components



2. Responsibilities

- i. NTWC
- ii. NDMO
- iii. Local Authorities
- iv. Villages/Communities
- v. Support agencies/emergency services

National Tsunami Response Plan: Components



Examples of Support Agencies:

- Police
- Fire
- Maritime Authorities
- Port Authorities
- Telcos
- Media
- Others?

(May require formal Memoranda of Understanding)

Example of a Memorandum of Understanding



National Tsunami Plan:

Table 4 Types of request for broadcast or termination messages for tsunami

Message	Issued by NEMA when...
<i>Request for the broadcast of a Tsunami Threat</i>	A <i>National Warning: Tsunami Threat</i> or a <i>National Warning: Tsunami Threat to Land and Marine Areas</i> is issued. May be issued by NEMA when a <i>National Advisory: Tsunami Activity</i> is issued if NEMA considers it necessary
<i>Request for the termination of an emergency announcement</i>	A <i>National Warning: Tsunami Threat CANCELLED</i> or <i>National Advisory: Tsunami Activity CANCELLED</i> message is issued.

Depending on the priority (urgency), a request for the broadcast of an emergency announcement can state that the information must be broadcast at specified intervals until a request is made to terminate the broadcast.

Requests for broadcast are issued through the NWS to all those media organisations included in the MoU.

Any request for the broadcast of an emergency announcement must be closed by an official *Request for the termination of an emergency announcement*, forwarded in the same manner as the initiating request for broadcast.

National Tsunami Response Plan: Components



3. Tsunami Warning

i. Monitoring & Assessment

- a. TSP (e.g. PTWC)
- b. Geoscience/NTWC

ii. National Tsunami Notifications (e.g. Information/Watch/Warning)

example:

Ampl @ shore	Threat definition	Notification	Comms Mode
<0.3m	No threat	Information Statement	SM, web
0.3-1m	Beach & marine tsunami activity	Watch/Advisory	Email, SM, web
>1m	Land & marine threat	Warning	Cell, email, SM, web

Describe the content/text of each type of Notification & audiences

National Tsunami Response Plan: Components

3. Tsunami Warning (cont'd)

iii. Thresholds & initial actions

example:

Source area	Threshold	Actions
Local a 0-1 hr from nearest shore	$M \geq 6.5$ and <100km deep	<ul style="list-style-type: none"> • Natural, felt signs are the primary warning • Tsunami Warning: Tsunami Marine & Land Threat
Local b (Kermadec) <1 hr from nearest shore	$M \geq 7.5$ and <150km deep	<ul style="list-style-type: none"> • Tsunami Watch: Strong Unusual Currents, or • Tsunami Warning: Tsunami Marine & Land Threat
Regional 1-3 hrs from nearest shore	$M \geq 7.5$ and <100km deep	<ul style="list-style-type: none"> • Information Statement (being assessed), followed by: • Tsunami Watch: Strong Unusual Currents, or • Tsunami Warning: Tsunami Marine & Land Threat
Distant >3 hrs from nearest shore	$M \geq 8$ and <100km deep	<ul style="list-style-type: none"> • Tsunami Warning: Tsunami Marine & Land Threat

National Tsunami Response Plan

Thresholds & initial actions: Example from MG 76:

PTWC Product Type	PTWC EQ Magnitude	Country's Alert Level	Estimated Time of Wave Arrival (ETA) at Country's Coast	Emergency Response Action
THREAT MESSAGE	$H > 1 \text{ m}$	WARNING	ETA < 3 hrs. (*)	EVACUATE TSUNAMI EVACUATION ZONES
THREAT MESSAGE	$H > 1 \text{ m}$	WATCH	3 (*) < ETA < 6 hrs.	Prepare to evacuate
INFORMATION STATEMENT	$H > 1 \text{ m}$	INFORMATION	ETA > 6 hrs.	Monitor event alert EM stakeholders
INFORMATION STATEMENT	$H < 1 \text{ m}$			NO ACTION
MESSAGE	$H > 1 \text{ m}$ at distant coastline	To be determined from a disaster tsunami threat: PTWC message number 1	ETA > 3 hrs. (*)	Monitor event, alert EM stakeholders

National Tsunami Response Plan

Thresholds
& initial
actions:
Example
from MG 76

TSP Message	Earthquake Parameters	Maximum Tsunami Wave Amplitude Indicated	Threatened Coast	Time left to Initial Wave Arrival	NTWC Alert Level for Threatened Coast	Emergency Response Action
Tsunami Threat	Magnitude 7.1 or greater, undersea or very near the sea, and < 100 km depth	≥ 1 m	Sections of coast with forecast amplitudes ≥ 1 m	< 3 hrs	WARNING	Evacuate xxx zones
				3 to 6 hrs	WATCH	Standby, Prepare to evacuate
				> 6 hrs	INFORMATION	Monitor for subsequent forecasts
		0.3 to 1 m	Sections of coast with forecast amplitudes 0.3 to 1 m	< 3 hrs	ADVISORY	Evacuate beaches and harbours
				3-6 hrs	WATCH	Standby, Prepare to evacuate
				> 6 hrs	INFORMATION	Monitor for subsequent forecasts
		< 0.3 m	None		INFORMATION	Monitor for subsequent forecasts

National Tsunami Response Plan: Components



4. Tsunami Emergency Response

i. **NDMO** actions, communication, relationships



ii. **Regional/Local Authorities** actions, communication, relationships
(if applicable)



iii. **Villages** (brief summary of actions as this is covered in the
Community Response Plans)

Response Actions Table: Example

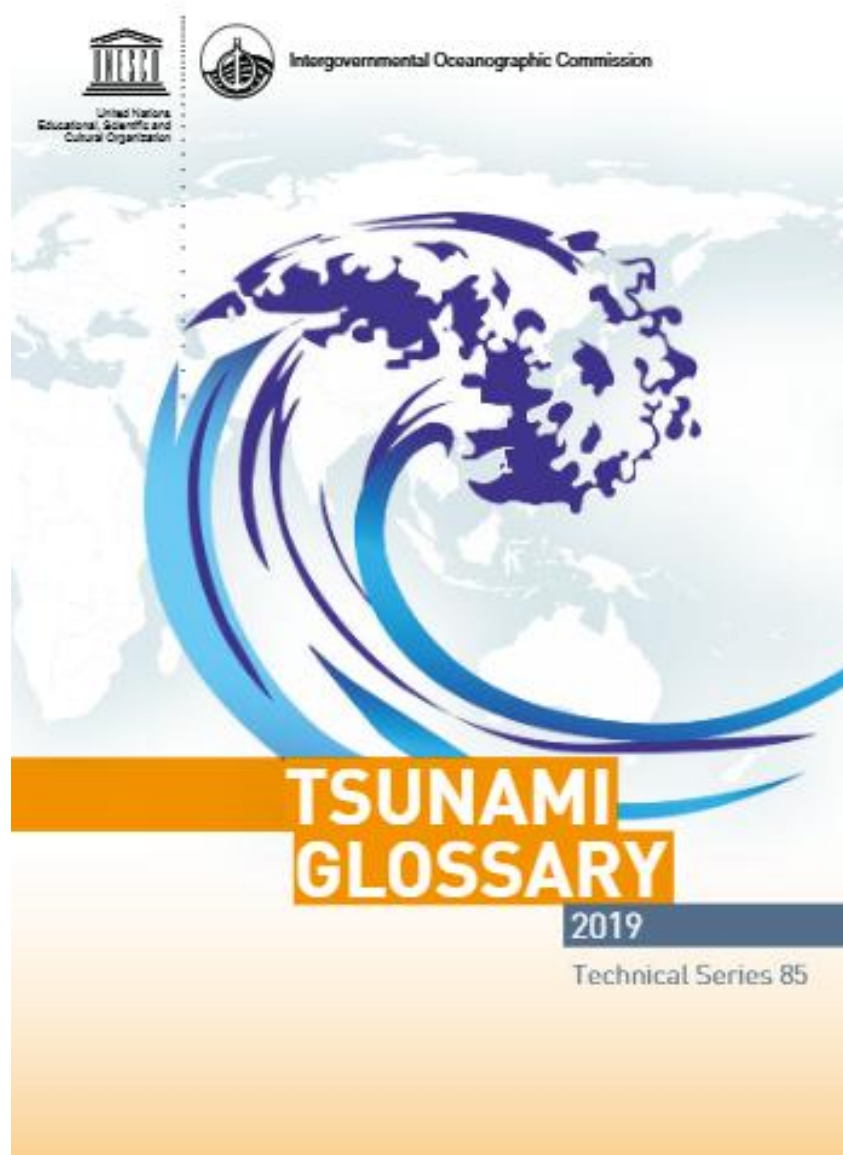
Notification	NDMO	Local Authorities	Villages
Information Statement	Xx	Xx	-
Watch/Advisory	Xx	Xx	Xx
	Xx	Xx	Xx
Warning	Xx	Xx	Xx
	Xx	Xx	Xx
	Xx	Xx	Xx

National Tsunami Response Plan: Components

5. Tsunami Awareness

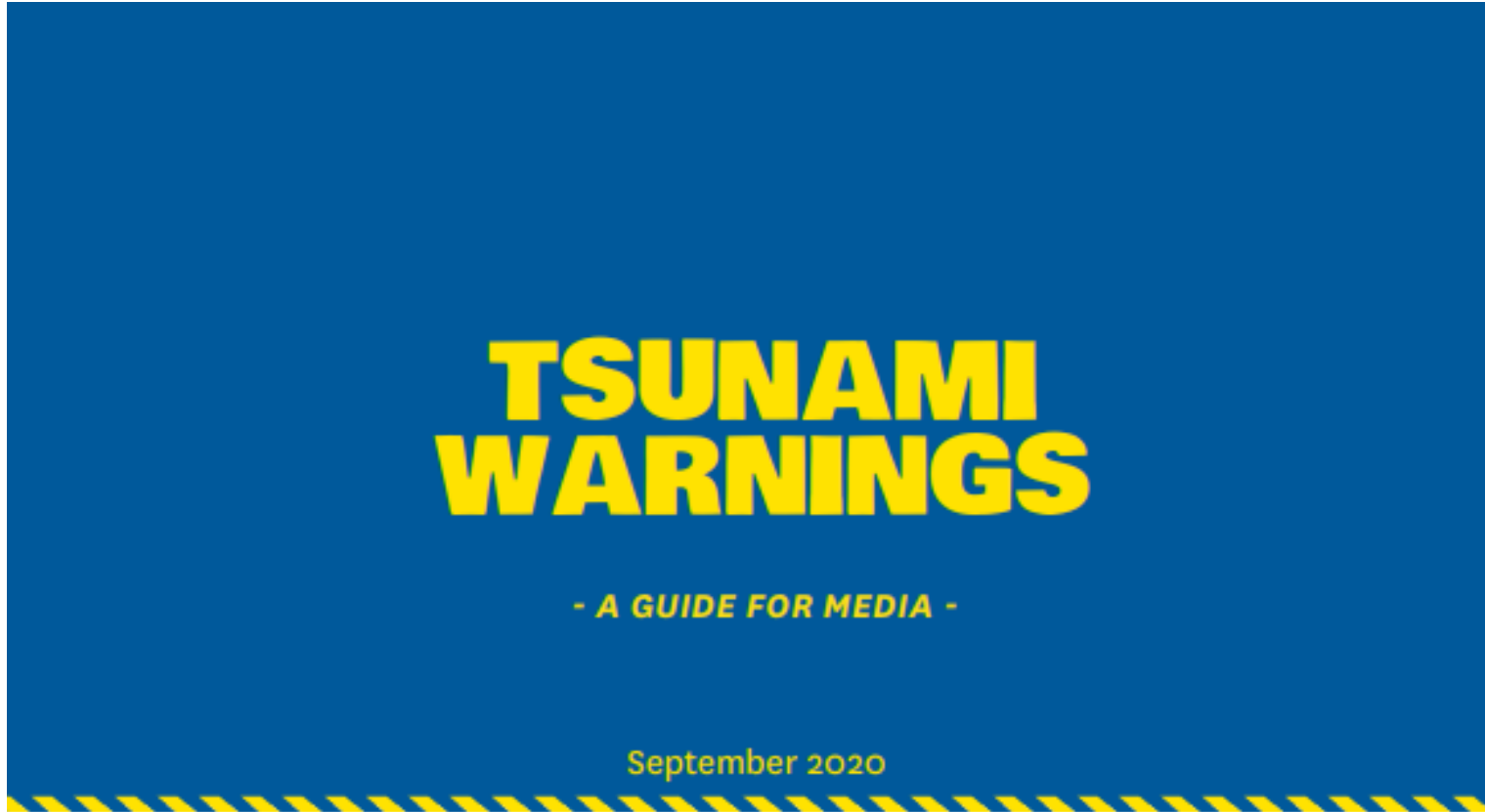
- i. Terminology/Glossary
- ii. Consistent messages/advice
- iii. Media guidance
- iv. Evacuation zones & definitions
- v. Signage templates & standards

IOC Tsunami Glossary



[Link](#)

Media support



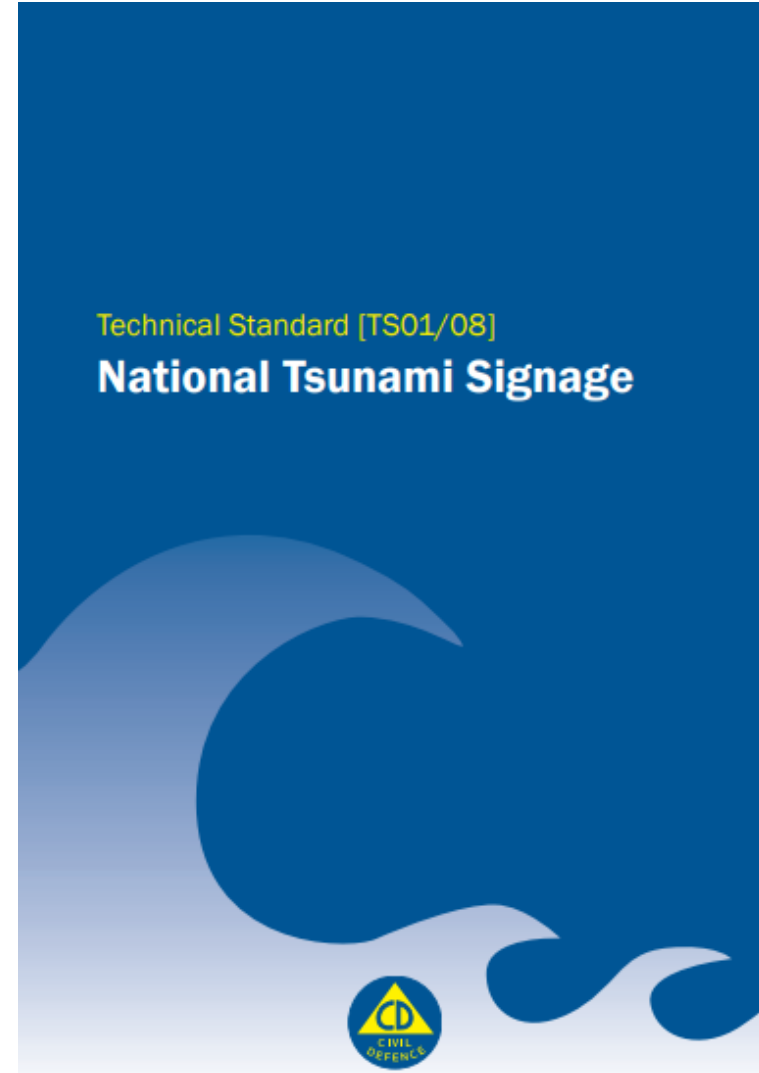
**National Emergency
Management Agency**
Te Rakau Whakamarumarū

[Link](#)

Signage



[ISO](#)



[Link](#)

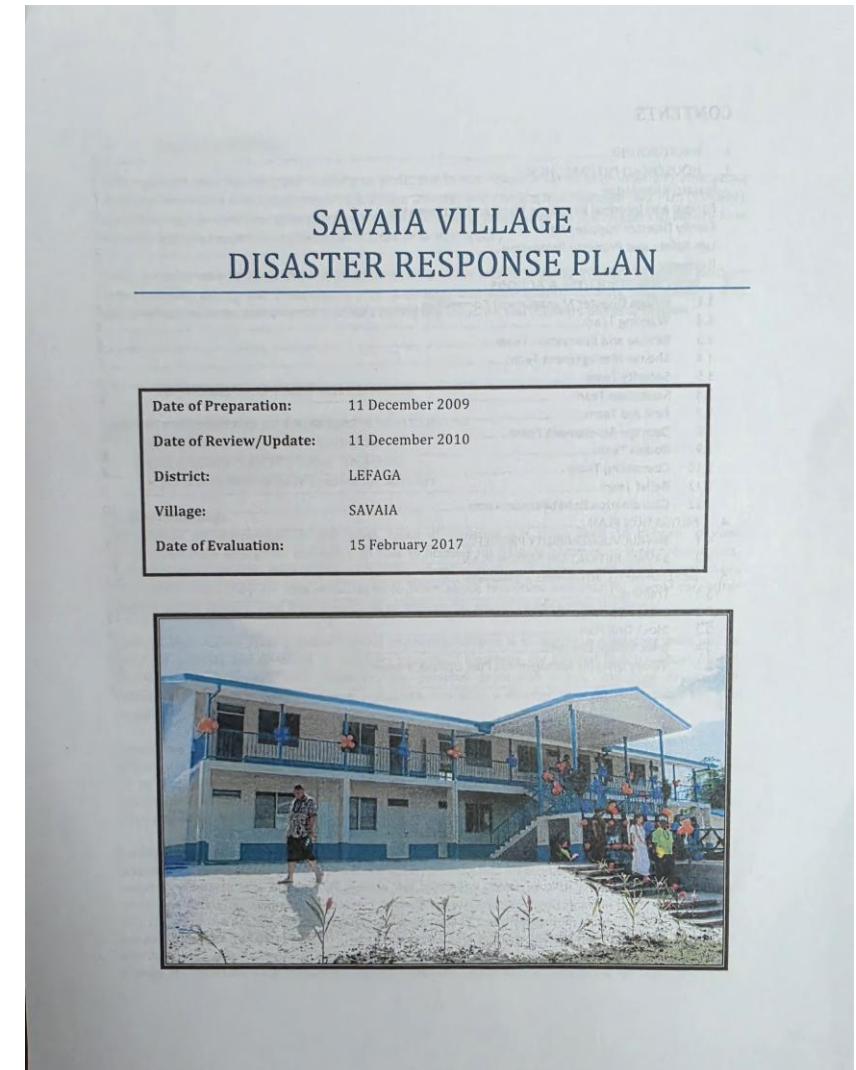
Community Tsunami Response Plan: Components

A stand-alone plan

or

Included in an all-hazards DRM

Plan (often as part of a wider DRM
initiative – i.e. CDCRM in Samoa)



Community Tsunami Response Plan



A | B | **C** | D | E




DISASTER & CLIMATE RISK
MANAGEMENT

TRAINING TOOLKIT
FOR SAMOAN
COMMUNITIES

Module C:
PLANNING & STRUCTURE

Village Disaster & Climate Risk Management
Plan

Formation of Community-level Disaster
Management Structures



Community Tsunami Response Plan

If a **stand-alone plan**, include:

1. Tsunami risk description (incl. historical events relevant to the area)
2. Tsunami inundation areas & evacuation zones, evacuation routes (map)
3. Tsunami warnings
 - i. Natural warnings
 - ii. Official notifications: Types, origins, channels
4. Evacuations (see earlier)

Tsunami evacuation plans: 5 Parts

- 1. Evacuation time**
- 2. Evacuation order arrangements**
- 3. Evacuation management arrangements**
- 4. Evacuation SOPs**
- 5. Community awareness arrangements**

Community Tsunami Response Plan



If part of an All-hazards DRM plan, ensure inclusion of:

- Tsunami risk description (incl. historical events relevant to area)
- Map of tsunami inundation areas/evacuation zones & evacuation routes
- Types of tsunami notifications and warning channels
- Who issues evacuation orders, via what channels
- Natural tsunami warnings and what to do
- Tsunami evacuation arrangements (different from i.e. cyclone)

PTWS in Action

Tsunami Ready Pacific Islands



Thank You. Questions?



TNC & TWFP

TNC

Tsunami National Contact. The person designated by an ICG Member State government to represent his/her country in the coordination of international tsunami warning and mitigation activities. The person is part of the main stakeholders of the national tsunami warning and mitigation system programme. The person may be the Tsunami Warning Focal Point from the national disaster management organization, from a technical or scientific institution, or from another agency with tsunami warning and mitigation responsibilities.

TWFP

Tsunami Warning Focal Point. A 24x7 point of contact (office, operational unit or position, not a person) officially designated by the NTWC or the government to receive and disseminate tsunami information from an ICG Tsunami Service Provider according to established national Standard Operating Procedures. The TWFP may or not be the NTWC.