



Tsunami Notification Arrangements

Tsunami Notification Arrangements

An annex of the Queensland Health Disaster Plan

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Part I: Structure and Governance

1.1. Purpose

The purpose of the annex is to outline the Queensland Health arrangements for Tsunami Notification that:

- assists in the protection of life
- minimises the risks posed by tsunamis
- contributes to the warning of communities.

1.2. Scope

The annex describes the national and Queensland approach to the management of tsunami warnings. It sets out a framework for conducting a risk assessment of critical assets, and details the roles and responsibilities of health services in response to a tsunami notification.

It describes internal strategies and processes for the management of a tsunami warning that requires a coordinated approach across health services. It does not repeat other aspects of an all-hazards approach to disaster management, which are detailed in the Queensland Health Disaster Plan (and emergency management arrangements).

This annex should be read in conjunction with the Queensland Health Disaster Plan. The annex covers the Queensland Health services and other health services that could potentially be impacted by a tsunami event.

1.3. Governance

Monitoring and review

This document shall be reviewed at the following times:

- annually as required
- post activation of the annex in response to a tsunami event
- within one month of any exercise designed to test the effectiveness of this procedure
- on the introduction of any major structural, organisational or legislative changes that affects Queensland Health operations.

1.4. Legislation, acts and plans

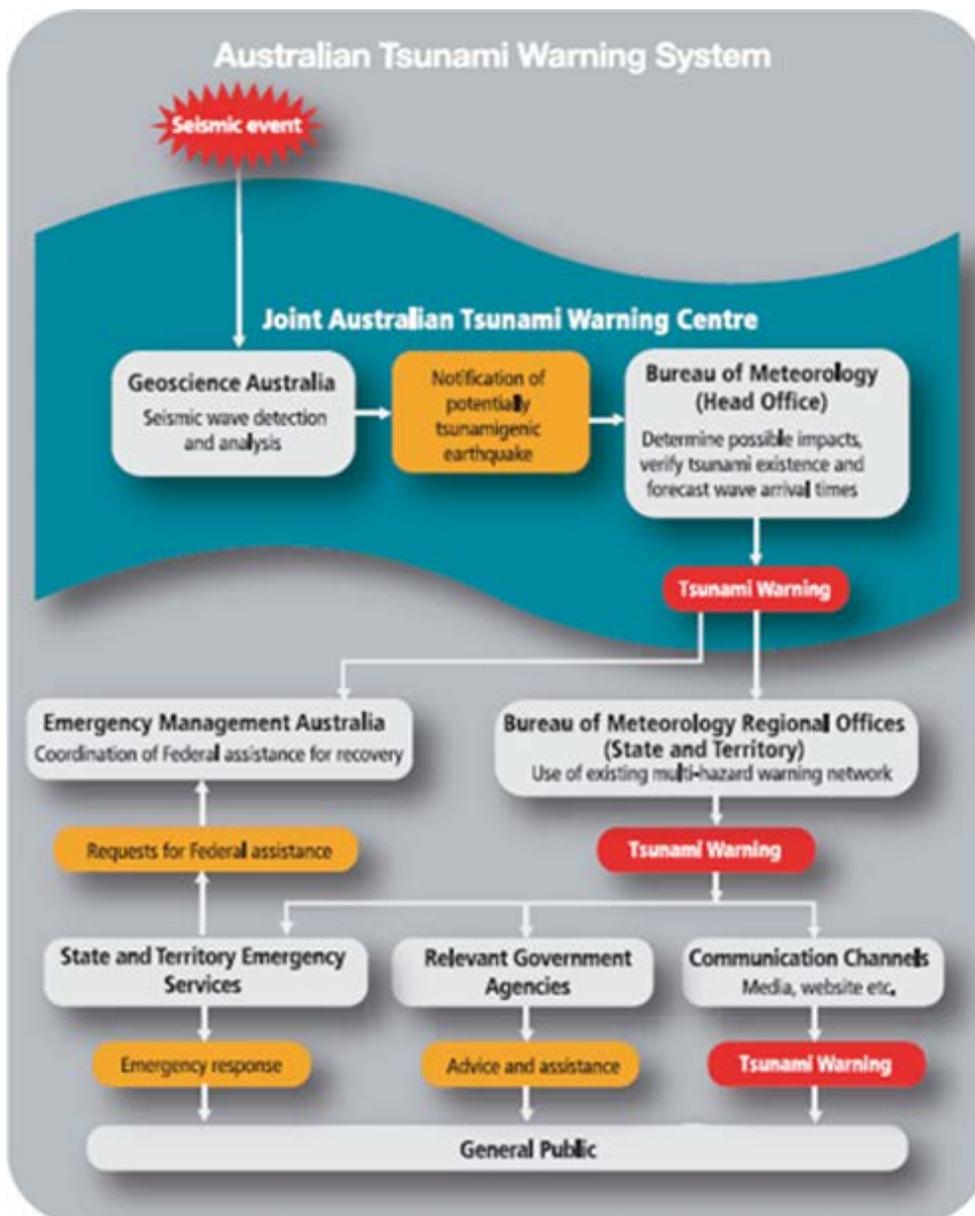
The *Queensland Disaster Management Act 2003* (the Act) and the *Disaster Management and Other Legislation Amendment Act 2010* provides the legislative basis for disaster management arrangements in Queensland. It makes the provision for the establishment of disaster management groups for state disaster, district and local government areas (LGAs).

Part II: Prevention and Preparedness Phase

2.1. National level

2.1.1. Australian tsunami warning system

The Joint Australian Tsunami Warning Centre (JATWC) was established to give Australia an independent warning capability of regional tsunami threats. The JATWC is operated by the Bureau of Meteorology (BOM) and Geoscience Australia (GA). The centre operates 24 hours a day to detect, monitor, verify and warn of any tsunami threat to Australian coastal locations and offshore territories.



National Protocol (Bureau of Meteorology)

2.1.2. Sequence of watches and warnings

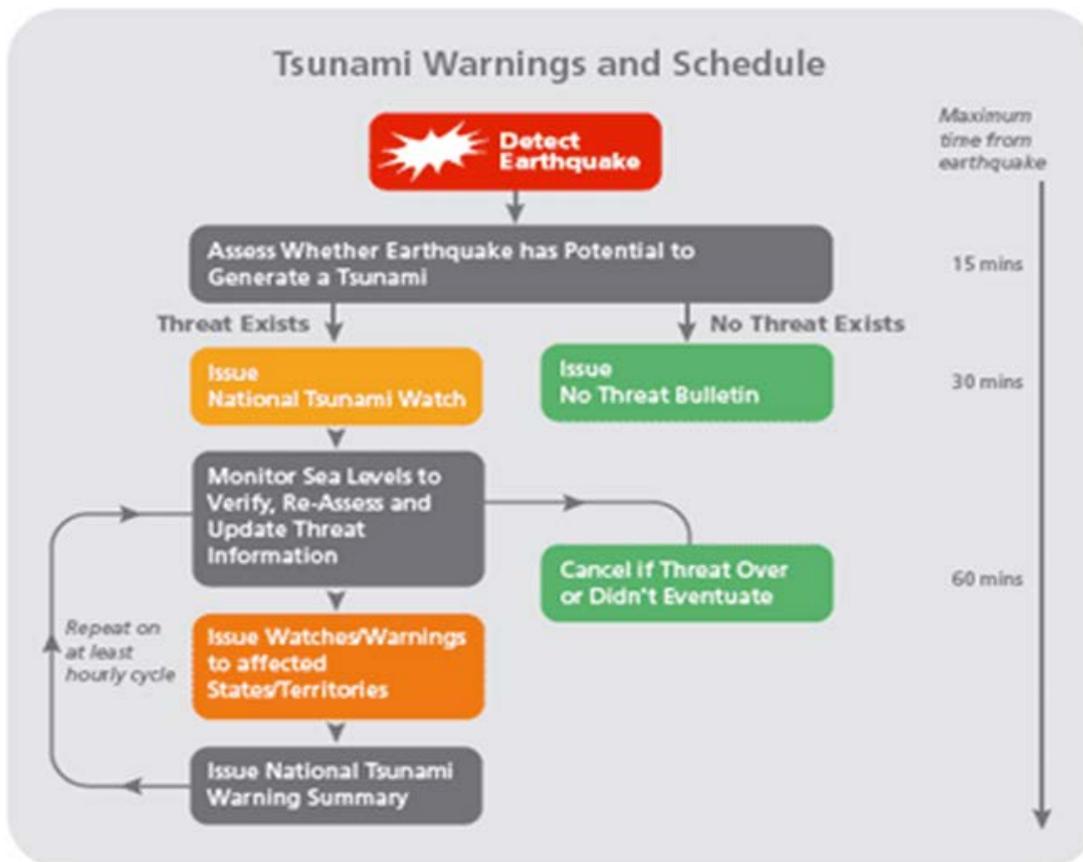
The first stage of the tsunami warning process is a "tsunami watch" phase, where seismologists have determined that there is the potential for an identified undersea earthquake to cause a tsunami threat to Australia.

- If a threat exists, the BoM will issue a "National Tsunami Watch".
- If no threat exists, a "National Tsunami No Threat Bulletin" will be issued.

The "National Tsunami Watch" may be reissued if a tsunami remains unconfirmed by sea level observations and if any potential first point of impact on Australia is more than 90 minutes away (i.e. the minimum time criteria for warning).

If sea level observations and further data confirm the tsunami threat, or if any potential first point of impact is less than 90 minutes away, the BoM, on behalf of the JATWC, will use its severe weather communication infrastructure to issue tsunami warnings for the states and territories under threat.

Once separate tsunami watches or warnings are being issued for individual states and territories, a "National Tsunami Warning Summary" will also be issued listing all the watches, warnings and cancellations that are in effect for the current tsunami event.



National Tsunami Warnings Process

2.1.3. Tsunami warning products

A description of the JATWC warning products issued is as follows:

National No Threat Bulletin:

- To advise people that the earthquake has been assessed and that **no tsunami threat exists** to Australia or its territories.

National or State/Territory Watch:

- To advise people that a tsunami threat to Australia or its territories **may exist** and that they should look out for further updates.

State/Territory Warning:

- To advise people that a tsunami threat to their state/territory **does exist** and to advise them of the level of threat (marine or land) and action they should take.

Tsunami Watch or Warning Cancellation:

- To When the main threat has passed or if a tsunami did not eventuate, the BoM will issue a "Tsunami Watch Cancellation" or "Tsunami Warning Cancellation". The relevant state or territory emergency authority will inform the public when it is safe to return to the affected area. A "National Tsunami Event Summary" is then issued after the event.

National Warning Summary:

- To provide the public, media and emergency authorities with the status of tsunami warnings nationally.

Event Summary:

- To provide the public, media, emergency authorities and government with summary information that can be used in post-event analysis.

2.2. State level

2.2.1. Managing JATWC warning products

The Commonwealth Attorney-General's Department (AGD) liaises with the operations centres of affected state and territory emergency management organisations and coordinates federal assistance as required.

Queensland's management of tsunami warnings is covered in the Queensland Tsunami Notification Guideline, in agency plans and standard operating procedures (SOPs), and in the District Disaster Management Group (DDMG) and Local Disaster Management Group (LDMG) plans.

Warnings from the BoM are issued directly to Queensland-based Commonwealth agencies such as Defence, Air Services Australia and airport authorities. BoM also issues warnings directly to the media, harbour-masters and any other registered subscriber.

Queensland's Department of Communities, Child Safety and Disability Services through the State Disaster Coordination Centre (SDCC), receives all warnings on behalf of the Queensland Government. Warnings are then disseminated to all Queensland Disaster Management Arrangement stakeholders by SMS, telephone and e-mail.

2.2.2. Liaison

State Level

Queensland Health will provide a Health Liaison Officer (HLO) to the Queensland Disaster Management Committee (QDMC).

HHS Level

HHSs will provide a Health Liaison Officer (HLO) to the DDMG as required.

The urgency of response activities requires that the HLO should have sufficient authority to represent the Health Incident Controller (HIC).

Names, positions and contact details of HLO are as prescribed in Hospital and Health Services (HHS) Emergency Preparedness Continuity Management plans.

2.2.3 Marine forecast zones relevant to Queensland tsunami warnings

These are determined and updated by the JATWC and can be found at:

<http://www.bom.gov.au/weather/qld/qld-forecast-map.shtml>



Marine forecast zones relevant to Queensland tsunami warnings

2.3. Local level

Preparedness is the most important aspect of managing an effective response; it focuses on having the necessary information, resources and response capability ready for activation to ensure a fast and effective response.

Planning is in place to assess the risks to HHSs located in the coastal areas potentially exposed to tsunami impacts. HHSs via the Disaster Management Health Service Directive will consider and document mitigation strategies, contingency plans and potential problem analyses within the framework of business continuity planning from their vulnerability assessments.

Local health service emergency preparedness continuity management plans address pre-impact requirements to support the community (eg. preparation of hospitals in 'safe areas' for triage and overflow).

Part III: Response and Recovery Phases

3.1. Response Phase

The strategy of Queensland Health's management of a tsunami warning, and any required response and recovery actions to a tsunami impact event, will predominantly be in accordance with the existing all-hazard arrangements as described in the Queensland Health Disaster Plan (and emergency management arrangements).

3.1.1. Queensland Health Notification

Queensland Health's response to a tsunami notification will be undertaken in the following steps:

1. notification and dissemination of tsunami warnings
2. activation of pre-identified roles and responsibilities prescribed in the Queensland Health Disaster Plan (and emergency management arrangements).

3.1.2. Warning methods

The State Health Coordinator (SHC) will disseminate tsunami warning messages via telephone, mobile, and SMS dependant on time of day, season and infrastructure limitations.

The accountable officers will ensure the continued dissemination of general warning messages noting that they should be forwarded verbatim. The following abbreviated general message format should be used when forwarding general tsunami advice to stakeholders:

The BoM has issued a tsunami not threat bulletin / watch /updated watch / warning / updated warning / cancellation / summary* for parts of Queensland.

Please call 1300 TSUNAMI, that is 1300 878 6264, or log onto www.bom.gov.au/tsunami for the full text of the message and for progressive updates.

3.1.3. Notification and dissemination of tsunami warnings

The notification process will commence when Queensland Health and the HHSs receive a tsunami notification directly from the SDCC. This is a complementary message to the warnings posted on the Bureau of Meteorology website.

The persons who will be advised are:

- Director-General (DG) Department of Health
- HHS Chairs and Chief Executives
- HHS secondary contacts
- Queensland Health Liaison Officer (QHLO) to the QDMC.
- Department of Health, Senior Departmental Liaison Officer (SDLO).

3.1.4. Dissemination of tsunami warning to health stakeholders

The table below documents the accountabilities, roles and responsibilities for the dissemination of tsunami warnings including *no threat bulletins*, *watch bulletins*, *warning bulletins* and *cancellation bulletins*.

Dissemination of Tsunami Warning to Health Stakeholders	
Notifying accountability	Health Stakeholders – Notification
DG	<p>The DG will notify the Minister for Health and place the System Management Team (SMT) and Department Management Team (DMT) on alert.</p> <p>The DG will delegate to the Chief Health Officer (CHO) who will place the State Health Emergency Coordination Centre (SHECC) on standby.</p>
QHLO to QDMC	Under direction of the CHO, the Liaison Officer will present to the QDMC.
SHECC Executive Officer (XO)	<p>The SHECC XO will notify, via OCA, the secondary contact officer appointed by each HHS including:</p> <ul style="list-style-type: none"> • Executive Director, Mental Health, Alcohol and Other Drugs Branch • Executive Director, Health Systems Innovation Branch • Executive Director, Health Protection Branch • Executive Director, Preventative Health • Executive Director, Retrieval Services and Counter Disaster Branch • Deputy Director General Prevention • Deputy Director General Clinical Excellence Division • Chief Executive Health Support Queensland • Chief Information Officer, Health Services Information Agency • Hospital and Health Service Chief Executive Officers • General Practice Queensland • Queensland Ambulance Service
HHS CEOs	<p>Liaison with LDMG to ensure notification of:</p> <ul style="list-style-type: none"> • Aged Care Facilities • Private health services <p>within their HHS operational boundaries if they are considered to be under potential threat.</p>

Table1: Dissemination of Tsunami Warning to Health Stakeholders

3.1.5. HHS roles and responsibilities

HHS CEOs are accountable for ensuring the following:

- Establishing and maintaining the HLO link between the Health Service District and Local and District Disaster Management Groups.
- Activating where required, the Queensland Health Incident Management System (QHIMS) and integrating this with whole-of-business operations;
- Representation of Queensland Health's interests on matters relevant to the emergency response through a HLO who will be a point of contact for interaction with other agencies and the Health Emergency Operation Centres (HEOC), and have the knowledge and authority to represent the HIC in the resolution of the event
- Local health service Emergency Preparedness Continuity Management plans addressing **pre-impact** requirements to support the community (eg. preparation of hospitals in 'safe areas' for triage and overflow).

The BoM warnings will relate to the *Marine Forecast Districts* listed in table 2 below.

Relationship between Marine Forecast Districts and Hospital and Health Services	
Marine Forecast Districts	Hospital and Health Service
South East Gulf <i>(south of Cape Keerweer)</i>	<i>North West Cape York and Torres Strait- Northern Peninsula</i>
North East Gulf <i>(north of Cape Keerweer)</i>	<i>Cape York and Torres Strait- Northern Peninsula</i>
Peninsular Waters <i>(Torres – Cooktown)</i>	<i>Cape York and Torres Strait-Northern Peninsula</i>
North Tropical Waters <i>(Cooktown – Cardwell)</i>	<i>Cape York and Torres Strait- Northern Peninsula Cairns & Hinterland</i>
Tropical Waters <i>(Cardwell – Bowen)</i>	<i>Townsville</i>
Central Coast <i>(Bowen – St Lawrence)</i>	<i>Mackay</i>
Capricornia Waters <i>(St Lawrence – Burnett Heads)</i>	<i>Central Queensland</i>
Hervey Bay Waters <i>(Burnett Heads – Sandy Cape)</i>	<i>Wide Bay</i>
Fraser Island Offshore Waters <i>(Sandy Cape -Double Island Point)</i>	<i>Wide Bay Sunshine Coast</i>
South East Coast Water <i>Double Island Point – Point Danger)</i>	<i>Sunshine Coast Metro North Metro South Gold Coast</i>

Table 2: Marine Forecast Districts

3.1.6. Resource considerations

Tsunami potential consequences– vulnerable assets and infrastructure

The DG, through delegation to Executive Directors and HHS CEOs has planning in place to assess the risks to HHSs located in the coastal areas potentially exposed to tsunami impacts. Vulnerability assessments will consider and document mitigation strategies, contingency plans and potential problem analyses within the framework of business continuity planning.

Table 3 identifies *district critical resources* potentially vulnerable to tsunamis based on nationally adopted height and distance parameters.

HHS Critical Resources				
Exposure in Vulnerable Area				
Note:				
<ol style="list-style-type: none"> 1. Identify the major assets exposed within each Marine Forecast District. 2. Vulnerable Area defined by: less than ten metres above sea level or within one kilometre of beaches or the waters edge of harbours and coastal estuaries. 3. Exposure likely to be dependent on nature of tsunami warning i.e. marine or land inundation. 				
Marine District	Forecast	QH facilities at risk	Vulnerability	HHS
South East Gulf		Mornington	1km + <10m	North West
North East Gulf		Pompuraaw PHC Napranum PHC Mapoon PHC Thursday Island	1km + <10m 1km + <10m 1km + <10m 1km + <10m	Torres Strait - Northern Peninsula Cape York
Peninsula Waters		Mabuiag PHC Boigu PHC Stephen PHC Horn PHC Saibai PHC Dauan PHC Yorke PHC Darnley PHC Murray PHC Coconut PHC St Pauls PHC Kubin Warraber PHC Badu PHC	1km + <10m 1km + <10m	Torres Strait – Northern Peninsula
North Tropical Waters		Cooktown Hospital Cairns Base Hospital Yarrabah PHC	1km 1km + <10m 1km + <10m	Cairns & Hinterland Cape York
Tropical Waters		Joyce Palmer PHC Magnetic Island PHC	1km + <10m 1km + <10m	Townsville
Central Coast		Cannonvale PHC	1km + <10m	Mackay
Fraser Island Offshore Waters		Community Health Village	1km + <10m	Sunshine Coast Wide Bay
South East Coast Waters		Maree Rose Centre PHC	1km + <10m	Metro South

Table 3: District Critical Resources

3.1.7. Response actions and evacuation

Advice on what to do in the event of a tsunami threat has been agreed nationally and is contained in the JATWC bulletins. The key advice is as follows:

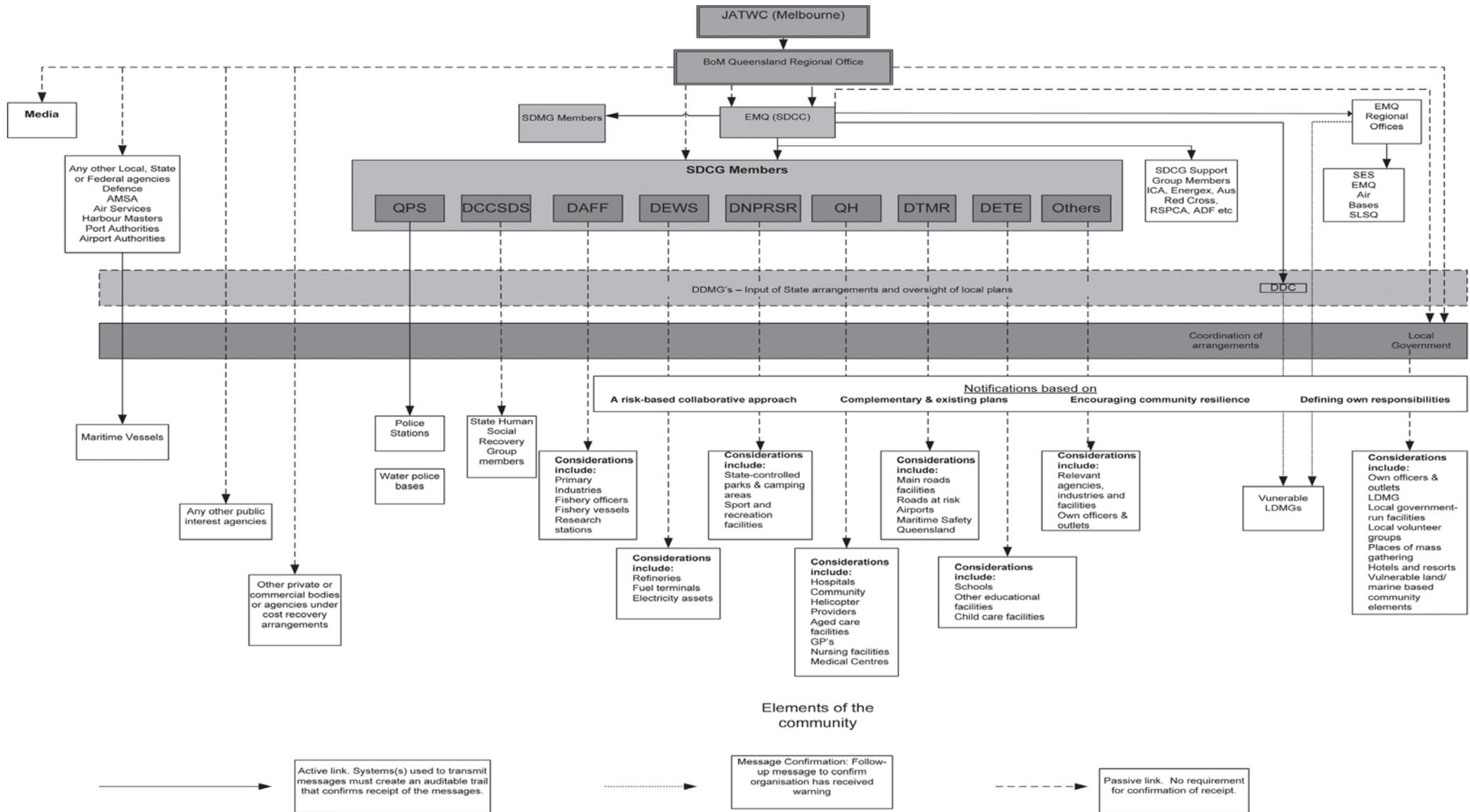
– Threatened marine environment areas

- The local emergency authority advises people in all threatened areas to get out of the water and move away from the immediate waters edge of harbours, coastal estuaries, rock platforms, and beaches.
- Boats in harbours, estuaries and in shallow coastal water should return to shore. Secure your boat and move away from the waterfront.
- Vessels already at sea should stay offshore in deep water until further advised.
- Do not go to the coast to watch the tsunami, as there is the possibility of dangerous, localised land inundation of the immediate foreshore.
- Check that your neighbours have received this advice.

– Threatened major land inundation

- The local emergency authority has ordered the evacuation of low-lying parts of coastal towns and villages including (areas would be named)
- People are strongly advised to go to higher ground, at least ten metres above sea level, or if possible move at least one kilometre away from all beaches and the water's edge of harbours and coastal estuaries.
- Take only essential items that you can carry including important papers, family photographs and medical needs.
- It may be in your own interests to walk to safety if possible to avoid traffic jams.
- If you cannot leave the area take shelter in the upper storey of a sturdy brick or concrete multi-storey building.

The diagram below describes the state, district and local warning dissemination route of tsunami warning products.



Resources

Joint Australian Tsunami Warning Centre	http://www.bom.gov.au/tsunami/?ref=ftt
Geoscience Australia	http://www.ga.gov.au/
Queensland Tsunami Notification Guidelines, September 2012	http://disaster.qld.gov.au/Disaster-Resources/Documents/Queensland%20Tsunami%20Notification%20Guidelines.pdf