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Commission

## Overview of TSP Services, Maritime Message Framework, SOPs, Procedures for NAVAREA Message Conversion and Dissemination

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# Outline of presentation

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- Background
- PILLAR II: TSUNAMI DETECTION AND WARNING
- Roles and Responsibilities of TSPs TSPs & NTWCs
- TSP Service Levels for IOTWMS
- TSP Public & Exchange Bulletins
- NTWC feedback mechanism
- List of NAVAREA & NTWCs in IOTWMS
- NAVAREA specialized Products & Protocols
- Commencement of services
- Message Content & Mode of communication
- Example Message

# Background

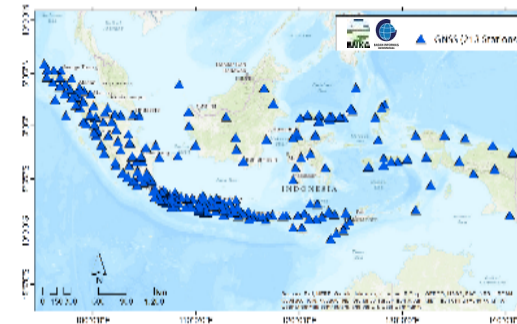
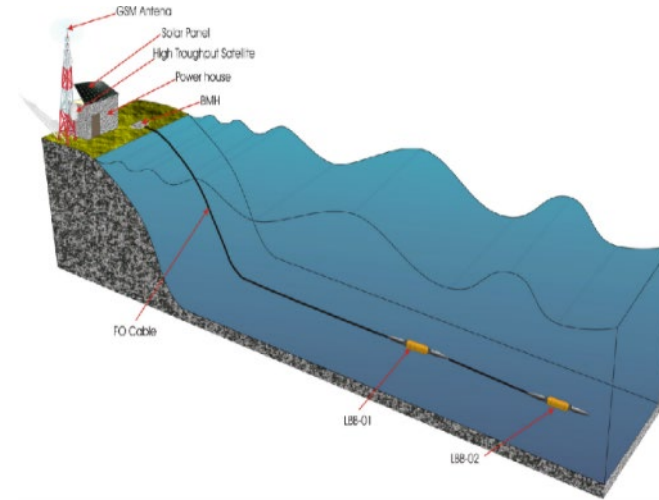
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- ❑ Through **TOWS-WG (UNESCO-IOC)**, the **IHO's World-Wide Navigational Warning System (WWNWS)** requested **TSPs** in all ocean basins to provide **maritime tsunami products**, enabling NAVAREA Coordinators to warn ships at sea of potential hazards near affected ports
- ❑ **IOC Recommendation:**
  - ❑ All ICGs to adopt protocols ensuring **TSPs issue timely & consistent messages to NAVAREA Coordinators.**
  - ❑ **NAVAREA Coordinators** convert TSP messages into **maritime safety broadcasts** (SafetyNet, SafetyCast, NAVTEX).
- ❑ **IOTWMS TSPs:**
  - ❑ Implemented maritime products.
  - ❑ Plan **trial dissemination** during **IOWave25 (05 Nov 2025).**

# PILLAR II: TSUNAMI DETECTION AND WARNING

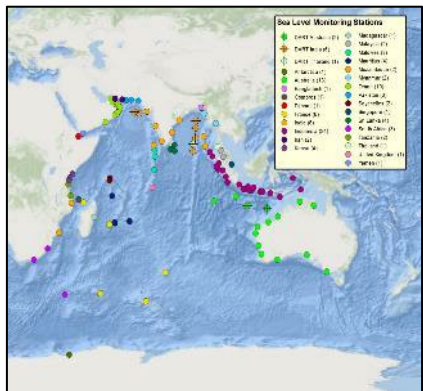
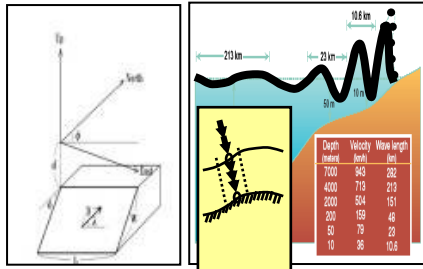
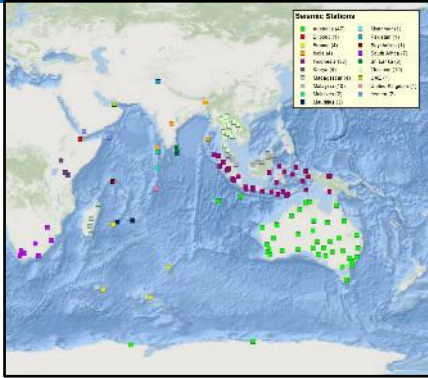
## Tsunami Service Providers

- Operated by **Australia, India, and Indonesia**
- Developing within **multi-hazard** environments
- **ISO compliant:** ISO 9001 (Australian and India) and ISO 22328-3 (Indonesia)
- **Performance monitoring** against 9 KPIs
- Threat information provided for **non-seismic source tsunami** by Australia from 2023. INDIA & Indonesia are under progress.
- **Maritime products for NAVAREAs implemented by TSPs** and to be trialed in 2025 (IOWAVE25)
- **Warning tools & systems being enhanced** by TSPs
- **More support for observations required** reach **Ocean Decade Goal** increased accuracy and **timeliness of tsunami warnings**



# Tsunami Detection, Warning & Dissemination

## Observations



## Regional Analysis

Seismological Data

Model Results

Sea level Data

**Tsunami Service Providers**



United Kingdom

India

Indonesia

Communicate

Threat Information

Warning Status

Threat Information

Warning Status

Threat Information

Warning Status

GTS  
SMS  
FAX  
Email  
Web

National Tsunami Warning Centre-1

National Tsunami Warning Centre-2

National Tsunami Warning Centre-N

## National Warnings

National DMO  
Local DMO  
Media  
Public



TV  
Radio  
SMS  
Email  
Web  
SIRENS

MEDIA

NAVAREA Tsunami Messages

New Service from TSPs  
For maritime community

# Roles and Responsibilities of TSPs

- **Monitor seismic and Non-Seismic sources** and **provide timely initial information** for those that could generate a tsunami (i.e. "potentially tsunamigenic")
- **Generate specific coastal-zone threat information** for all Indian Ocean countries using tsunami wave propagation models based on the earthquake/non-seismic source information, and later confirmed or adjusted based on sea level observations
- **Generate timely tsunami Exchange Bulletins and Threat Maps** for use by NTWCs in their preparation and issuing of national tsunami warnings for their countries
- Monitor tsunami propagation and **report updated tsunami wave amplitude observations**
- Receive **National Warning Status Reports from NTWCs** and **display on TSP Public Webpages**
- **Issue Public Bulletins** containing details of the earthquake, national warning statuses as reported by the NTWCs, and tsunami wave observations
- Serve as a backup centre to other TSPs and as an NTWC for its own country



# TSP Exchange & Public Bulletins

## TSP “Exchange” Products – for National Tsunami Warning Centres (NTWCs)

- Include: **Textual bulletins, graphics, password-protected websites, and data files** (in agreed formats).
- Dissemination: **Via GTS, email, and SMS** notifications to NTWC contacts.
- Access: Available on **password-protected TSP websites**.
- Responsibility: **National warnings** based on TSP information are issued **by NTWCs** (not TSPs).

## TSP “Public” Products – for General Public Information

- Include:
  - **Earthquake/non-seismic source details**
  - **Qualitative tsunami-genesis statement**
  - **Observed tsunami wave information**
  - **Summary of national warning statuses** (as reported by NTWCs)
- NTWCs update their **current warning status** via a web-based feedback form.
- TSPs publish the **compiled national status summary** on their public websites:
  - **TSP–India:** <https://tsunami.incois.gov.in/TEWS/NTWCStatusSummary.jsp>
  - **TSP–Australia:** <http://www.bom.gov.au/tsunami/iotwms/>
  - **TSP–Indonesia:** <https://rtsp.bmkg.go.id/publicbull.php>

# TSP Websites for Public



**TSP Public Websites and Public Bulletins** with information about the tsunami source, tsunami wave observations, and the summary of **national warning status of each Indian Ocean country as reported through FEEDBACK mechanism by NTCWs.**

**TEST TEST - Earthquake Current - Not a Real Event - TEST TEST**

Check bulletin and map for tsunami information in the Indian Ocean

**Warning Status**

Australia	Bangladesh	Comoros	Djibouti
France (Indian Ocean Territories)	India	Indonesia	Iran
Kenya	Madagascar	Malaysia	Maldives
Mauritius	Mozambique	Myanmar	Oman
Pakistan	Seychelles	Singapore	Somalia
South Africa	Sri Lanka	Tanzania	Thailand
Timor-Leste	UAE	UK (Indian Ocean Territories)	Yemen

**Legend**

- Threat Level 0: No impact expected, no flooding, no currents.
- Threat Level 1: There is a potential for tsunami impact, but given the travel time, no response of the public is necessary at the moment.
- Threat Level 2: Threat of coastal marine areas due to strong currents and oscillations in sea level.
- Threat Level 3: Threat of tsunami inundation by sea areas.
- Cancellation/ Clear

**Event**

Event	Date	Mag.	Location
1	08:00 UTC 15 October 2025	8.5	Off Coast of Pakistan *** TEST EVENT ***

**National Tsunami Warning Centres**

Australia (Bureau of Meteorology) France (Indian Ocean Territories) India (Indian Ocean) Indonesia (KORMPAC) Malaysia (MADPAC) Mauritius (Mauritius) Myanmar (Myanmar) Oman (Oman) Pakistan (NTWC Pakistan) Singapore (Singapore) Sri Lanka (Sri Lanka) Thailand (TSP) Timor-Leste (TSP)

TSP- Australia

**Indian Tsunami Early Warning System**

Ministry of Earth Sciences - Government of India

**Summary of the Current Threat Status as reported by the NTCWs**

This page displays the summary of feedback received from individual NTCWs regarding the Threat Status in their area of responsibility. Within 24 hrs of the current event ending (issue of FINAL bulletin by RTSPs), if no further NTCW feedback is received, this page will be cleared to indicate no warnings.

**Legend**

- Threat Level 0: No impact expected, no flooding, no currents.
- Threat Level 1: There is a potential for tsunami impact, but given the travel time, no response of the public is necessary at the moment.
- Threat Level 2: Threat of coastal marine areas due to strong currents and oscillations in sea level.
- Threat Level 3: Threat of tsunami inundation by sea areas.
- Cancellation/ Clear

**Show 50 rows of entries**

Country	Threat Status	Comments	Sender	Sender Time
Australia	Threat Level 0	TEST TEST TEST KORMPAC No Threat issued for Australia	Robert Greenwood	Wed Oct 15 2025 22:34:30 GMT+1100 (Australian Eastern Daylight Time)
Bangladesh	-	-	-	-
Comoros	-	-	-	-
Djibouti	-	-	-	-
France (Indian Ocean Territories)	-	-	-	-
India	Threat Level 3	As part of tsunami mock exercise, province level activities are being carried out. Threat passed for some districts in ANDHRA and some districts are still under threat.	ITEWC	Wed Oct 15 2025 22:37:27 GMT+0500 (India Standard Time)
Indonesia	Threat Level 2	Coastal areas of Sumatra and Java are still under threat, sea level monitoring is continuing.	Sigit	Thu Oct 16 2025 00:05:46 GMT+0700 (Western Indonesia Time)
Iran	-	-	-	-
Kenya	-	-	-	-
Madagascar	Threat Level 3	-	Bernardo	Wed Oct 15 2025 20:17:30 GMT+0200 (Africa/Abidjan)
Malaysia	-	-	-	-
Maldives	-	-	-	-
Mauritius	CANCELLATION/ CLEAR	Termination bulletin issued for St Brandon, Rodrigues and Mauritius.	G.Beegeo	Wed Oct 15 2025 16:06:18 GMT+0400 (Coordinated Universal Time)
Mozambique	-	-	-	-
Myanmar	-	-	-	-
Oman	Threat Level 3	New sea level station recorded SURRO 22.57N 59.520E 7.00 2025 10 15 06:26:59VZ QJRA 23.38N 58.925E 5.80 2025 10 15 06:20:27VZ MURG 23.63N 58.967E 4.00 2025 10 15 06:11:52VZ WJDA 23.82N 57.800E 2.50 2025 10 15 06:04:19	Khaliq aljibri	Wed Oct 15 2025 06:49:02 GMT+0400 (Coordinated Universal Time)
Pakistan	CANCELLATION/ CLEAR	NOTIFICATION TO ITAMS TSP INDONESIA HAS JUST ISSUED TSUNAMI BULLETIN NUMBER 4 FOR THE INDIAN OCEAN, BASED ON THE FOLLOWING EARTHQUAKE EVENT: Magnitude : 9.0 Map Depth : 10km Date : 15 Oct 2025 Origin Time : 06:00:00 UTC Latitude : 24.80N Longitude : 62.26E Location : Off Coast of Pakistan	Ameer Hyder, NTWC Pakistan	Wed Oct 15 2025 00:00:48 GMT+0500 (Pakistan Standard Time)
Seychelles	-	-	-	-
Singapore	-	-	-	-
Somalia	-	-	-	-
South Africa	-	-	-	-
Sri Lanka	-	-	-	-
Tanzania	-	-	-	-

TSP- India

**AGENCY FOR METEOROLOGY CLIMATOLOGY AND GEOPHYSICS**

Indonesia Tsunami Service Provider

**InaTEWS - Indonesia Tsunami Early Warning System**

**Public Bulletin**

Page 1 of 15  
Event 1-50 of 719 Events

Date	Time (UTC)	Magnitude	Depth (Km)	Latitude	Longitude	Location	Type	Bulletin Number	Bulletin Type	Event Group
2025-10-16	05:48:53	6.8	18	1.945	139.03E	Near North Coast of West Papua	REAL EVENT	1	EARTHQUAKE BULLETIN	202510160548
2025-10-15	06:00:00	9.0	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	13	FINAL BULLETIN	202510150600IOW
2025-10-15	06:00:00	9.0	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	12, 2, 10	CONFIRMED THREAT BULLETIN	202510150600IOW
2025-10-15	06:00:00	9.0	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	11, 3, 8	CONFIRMED THREAT BULLETIN	202510150600IOW
2025-10-15	06:00:00	9.0	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	10, 3, 8	CONFIRMED THREAT BULLETIN	202510150600IOW
2025-10-15	06:00:00	9.0	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	9, 3, 7	CONFIRMED THREAT BULLETIN	202510150600IOW
2025-10-15	06:00:00	9.0	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	8, 3, 6	CONFIRMED THREAT BULLETIN	202510150600IOW
2025-10-15	06:00:00	9.0	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	7, 3, 5	CONFIRMED THREAT BULLETIN	202510150600IOW
2025-10-15	06:00:00	9.0	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	6, 3, 4	CONFIRMED THREAT BULLETIN	202510150600IOW
2025-10-15	06:00:00	9.0	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	5, 3, 3	CONFIRMED THREAT BULLETIN	202510150600IOW
2025-10-15	06:00:00	9.0	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	4, 3, 2	CONFIRMED THREAT BULLETIN	202510150600IOW
2025-10-15	06:00:00	9.0	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	3, 3, 1	CONFIRMED THREAT BULLETIN	202510150600IOW
2025-10-15	06:00:00	8.7	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	2	THREAT ASSESSMENT BULLETIN	202510150600IOW
2025-10-15	06:00:00	8.3	10	24.8N	62.2E	Off Coast of Pakistan (IOWave-Oct-2025)	TEST EVENT	1	EARTHQUAKE BULLETIN	202510150600IOW

**User Login**

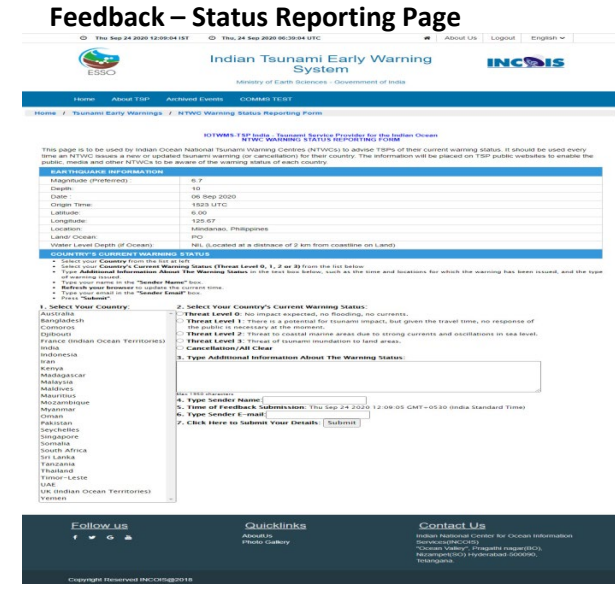
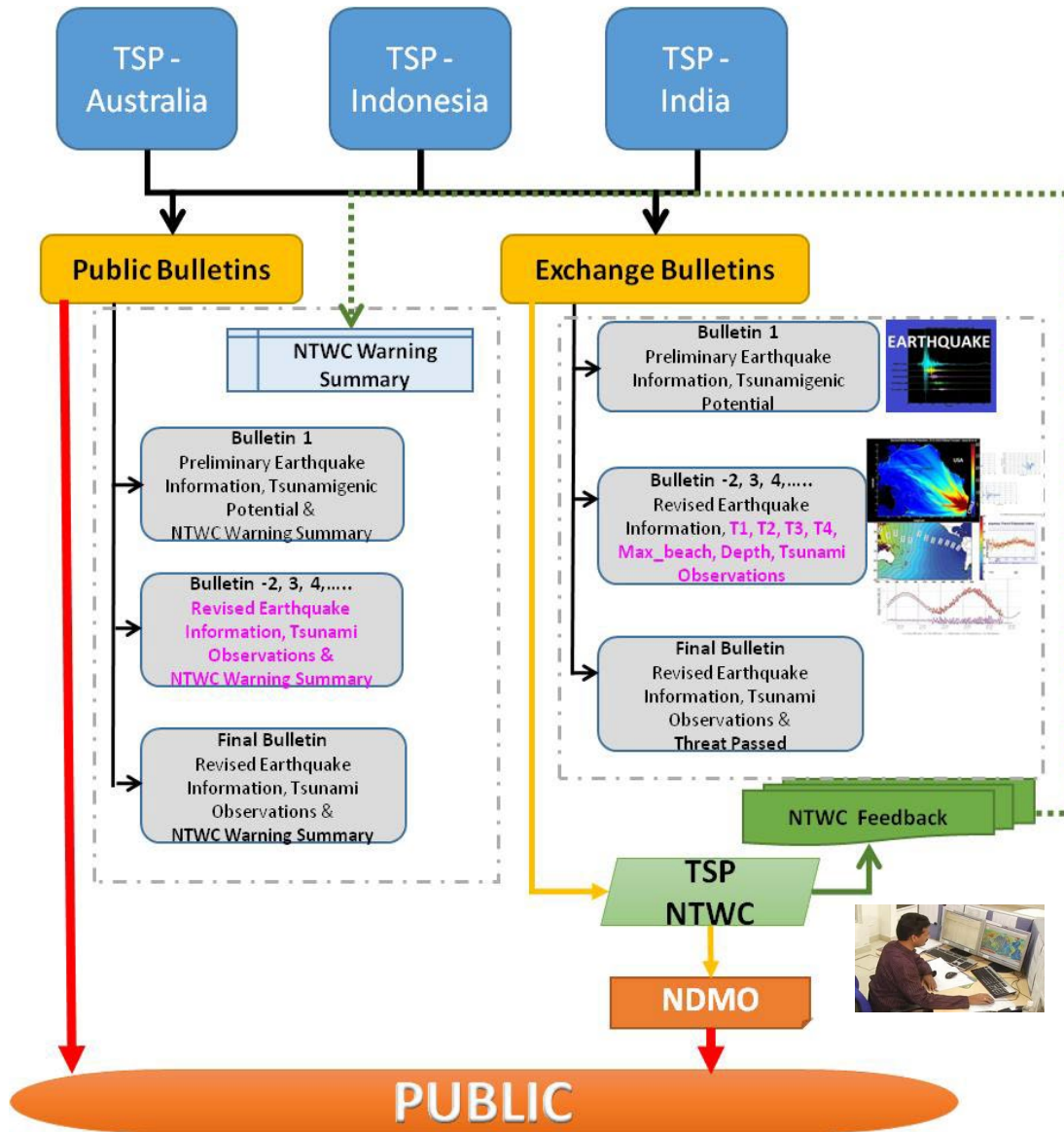
Username:

Password:

[Forgot Password ?](#)

TSP- Indonesia

# NTWC feedback mechanism



Country	Threat Status	Comments	Sender	Sender Time
Australia				
Bangladesh				
Cambodia				
Djibouti				
France (Indian Ocean Territories)				
India				
Indonesia				
Iran				
Japan				
Madagascar				
Maldives				
Mauritius				
Myanmar				
Nepal				
New Zealand				
Oman				
Pakistan				
Philippines				
Seychelles				
Singapore				
Somalia				
South Africa				
Sri Lanka				
Thailand				
Timor-Leste				
UAE				
Vanuatu (Indian Ocean Territories)				

<https://tsunami.incois.gov.in/TEWS/NTWCStatusSummary.jsp>

Within 24 hours of the current event ending (issue of FINAL bulletin by TSPs), if no further NTWC feedback is received, this page will be cleared to indicate no warnings.

# List of NAVAREA & NTWCs in IOTWMS

- ❑ The world's oceans are divided into **21 NAVAREAs** (navigational areas).
- ❑ Each NAVAREA is assigned to a **coastal State** responsible for issuing navigational warnings to ships.
- ❑ The **NAVAREA Coordinator** in each region:
  - Collects and validates information.
  - Coordinates with relevant authorities.
  - Issues warnings to mariners.
- ❑ **Indian Ocean coverage: 05 NAVAREAs VII, VIII, IX, X, XI**



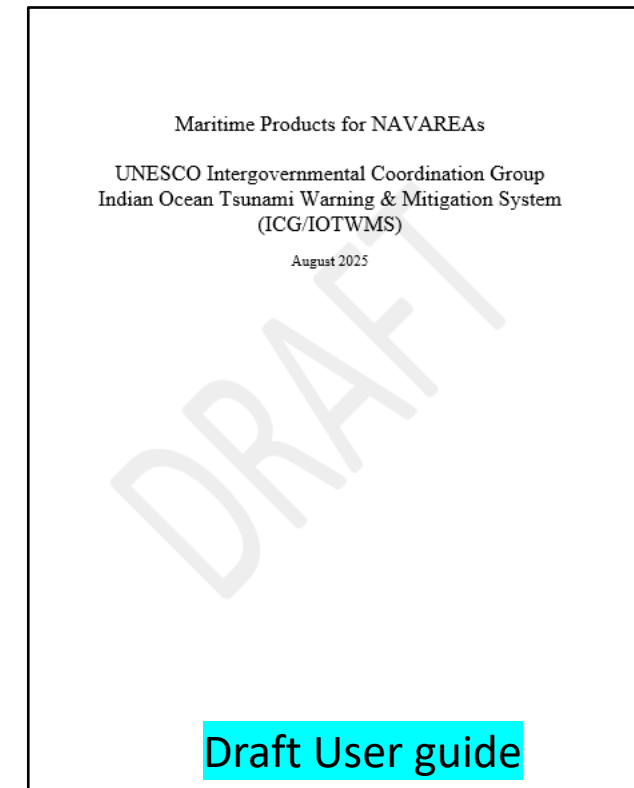
Global NAVAREAS

# NAVAREAS in the Indian Ocean Region, countries responsible and coverage in Indian Ocean

NAVAREA ID	Country Responsible	Coverage in Indian Ocean (Countries or Territories or Other Geographic Locations)
VII	South Africa	Comoros, Kenya, Madagascar, Mozambique, South Africa
VIII	India	Bangladesh, France (Indian ocean territories), India, Maldives, Mauritius, Myanmar, Seychelles, Somalia, Sri Lanka, Tanzania
IX	Pakistan	Djibouti, Iran, Oman, Pakistan, United Arab Emirates, Yemen
X	Australia	Australia
XI	Japan	Indonesia, Malaysia, Singapore, Thailand, Timor-Leste

# Commencement of NAVAREA Tsunami Messages

- ❑ Maritime Safety (NAVAREA) messages are only disseminated from Type-II onwards; once a potential or confirmed threat is identified and continue until the Final or Cancellation message.
- ❑ For the purpose of the test, the threshold for listing countries under threat is based on:
  1. Estimated Wave Amplitude equal to or exceeding 0.5 M at the coast of IOTWMS Member States as assessed by the TSPs - aligning with the recommendations of the TOWS-WG
  2. Threat Status as reported by the NTWCs of the IOTWMS Member States - aligning with the Public bulletin dissemination policy of the ICG/IOTWMS.



It may be noted that the TSP threat assessments for an event might vary due to the differences in data used or forecasting methods. While recommended best practices to be adopted in such situations are discussed with the users in training workshops, national warnings issued by the NTWCs should always take precedence

# Message Content

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**Maritime Messages** are concise and provide only essential information. Unlike TSPs' Threat Exchange Messages for NTCs, they do **not** include estimated tsunami arrival times, forecast amplitudes, sea-level observations

## ***Tsunami potential / confirmed Threat Information Message***

- Header with Message Number
- Issued by TSP for the IOTWMS
- Issued Time and Date in UTC
- NAVAREAS that the information applies to
- Information about the earthquake/non-seismic source that generated the tsunami
- Countries, territories, and other places with a forecast coastal tsunami hazard
- Information for ships about the tsunami information
- Instructions to ships

## ***Final Message***

- Header
- Statement that the threat has largely passed
- Instructions to ships

# NAVAREA Templates and dissemination protocol

## A) Type 2 NAVAREA POTENTIAL THREAT BULLETIN Template:

(Variable fields in **red**; modification required for non-seismic and complex source events highlighted in **yellow**)

TSP AUSTRALIA TSUNAMI BULLETIN NUMBER 1 FOR  
NAVAREA VII, NAVAREA VIII, NAVAREA X, NAVAREA XI  
EAST INDIAN OCEAN, NORTH INDIAN OCEAN, SOUTHWEST INDIAN OCEAN, WEST INDIAN OCEAN

TSUNAMI THREAT MESSAGE ISSUED BY TSUNAMI SERVICE PROVIDER AUSTRALIA IN SUPPORT OF THE UNESCO/IOC INDIAN OCEAN TSUNAMI WARNING AND MITIGATION SYSTEM AT 0016 UTC Monday 01 May 2015.  
A TSUNAMI IS POSSIBLE TO BE GENERATED BY A **MAGNITUDE 8.9 EARTHQUAKE** THAT OCCURRED NEAR SOUTH OF BALI, INDONESIA [10.00S, 115.97E] AT 0000 UTC 01 May 2015.  
[BASED ON THE OFFICIAL THREAT FROM NATIONAL TSUNAMI WARNING CENTERS (NTWCs)] HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS OF AUSTRALIA, FRANCE (INDIAN OCEAN TERRITORIES), INDONESIA, MADAGASCAR, MAURITIUS, SOUTH AFRICA, SRI LANKA, TIMOR-LESTE  
TSUNAMI WAVES ARE NOT **A HAZARD** TO SHIPS IN DEEP WATER BUT CAN CAUSE STRONG CURRENTS AND RAPID SEA LEVEL CHANGES IN SHALLOW WATER, AS WELL AS INUNDATION OF THE COAST. SHIPS APPROACHING THE COAST SHOULD CONSULT LOCAL AUTHORITIES REGARDING LOCAL CONDITIONS AND ADVICES.

## C) Type 4 NAVAREA FINAL BULLETIN Template – Tsunami Observed:

(Variable fields in **red**; modification required for non-seismic and complex source events highlighted in **yellow**)

TSP AUSTRALIA TSUNAMI BULLETIN NUMBER 13 FOR  
NAVAREA VII, NAVAREA VIII, NAVAREA X, NAVAREA XI  
EAST INDIAN OCEAN, NORTH INDIAN OCEAN, SOUTHWEST INDIAN OCEAN, WEST INDIAN OCEAN

TSUNAMI CANCELLATION MESSAGE ISSUED BY TSUNAMI SERVICE PROVIDER AUSTRALIA IN SUPPORT OF THE UNESCO/IOC INDIAN OCEAN TSUNAMI WARNING AND MITIGATION SYSTEM AT 0000 UTC 01 May 2015.  
THE THREAT HAS NOW LARGELY PASSED FOR THE TSUNAMI GENERATED BY A **MAGNITUDE 8.9 EARTHQUAKE** THAT OCCURRED NEAR SOUTH OF BALI, INDONESIA [10.00S, 115.97E] AT 0000 UTC 01 May 2015.  
HOWEVER, SHIPS APPROACHING THE COAST SHOULD STILL CONSULT LOCAL AUTHORITIES REGARDING LOCAL CONDITIONS AND ADVICES.

## B) Type 3 NAVAREA CONFIRMED THREAT BULLETIN Template:

(Variable fields in **red**; modification required for non-seismic and complex source events highlighted in **yellow**)

TSP AUSTRALIA TSUNAMI BULLETIN NUMBER 2 FOR  
NAVAREA VII, NAVAREA VIII, NAVAREA X, NAVAREA XI  
EAST INDIAN OCEAN, NORTH INDIAN OCEAN, SOUTHWEST INDIAN OCEAN, WEST INDIAN OCEAN

TSUNAMI CONFIRMED THREAT MESSAGE ISSUED BY TSUNAMI SERVICE PROVIDER AUSTRALIA IN SUPPORT OF THE UNESCO/IOC INDIAN OCEAN TSUNAMI WARNING AND MITIGATION SYSTEM AT 0016 UTC Monday 01 May 2015.  
A TSUNAMI HAS BEEN GENERATED BY A **MAGNITUDE 8.9 EARTHQUAKE** THAT OCCURRED NEAR SOUTH OF BALI, INDONESIA [10.00S, 115.97E] AT 0000 UTC 01 May 2015.  
[BASED ON THE OFFICIAL THREAT FROM NATIONAL TSUNAMI WARNING CENTERS (NTWCs)] HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR SOME COASTS OF AUSTRALIA, FRANCE (INDIAN OCEAN TERRITORIES), INDONESIA, MADAGASCAR, MAURITIUS, SOUTH AFRICA, SRI LANKA, TIMOR-LESTE  
TSUNAMI WAVES ARE NOT **A HAZARD** TO SHIPS IN DEEP WATER BUT CAN CAUSE STRONG CURRENTS AND RAPID SEA LEVEL CHANGES IN SHALLOW WATER, AS WELL AS INUNDATION OF THE COAST. SHIPS APPROACHING THE COAST SHOULD CONSULT LOCAL AUTHORITIES REGARDING LOCAL CONDITIONS AND ADVICES.

## D) Type 4 NAVAREA FINAL BULLETIN Template – No Tsunami Observed:

(Variable fields in **red**; modification required for non-seismic and complex source events highlighted in **yellow**)

TSP AUSTRALIA TSUNAMI BULLETIN NUMBER 13 FOR  
NAVAREA VII, NAVAREA VIII, NAVAREA X, NAVAREA XI  
EAST INDIAN OCEAN, NORTH INDIAN OCEAN, SOUTHWEST INDIAN OCEAN, WEST INDIAN OCEAN

TSUNAMI CANCELLATION MESSAGE ISSUED BY TSUNAMI SERVICE PROVIDER AUSTRALIA IN SUPPORT OF THE UNESCO/IOC INDIAN OCEAN TSUNAMI WARNING AND MITIGATION SYSTEM AT 0000 UTC 01 May 2015.  
NO TSUNAMI WAS OBSERVED FROM A **MAGNITUDE 8.9 EARTHQUAKE** THAT OCCURRED NEAR SOUTH OF BALI, INDONESIA [10.00S, 115.97E] AT 0000 UTC 01 May 2015.  
HOWEVER, SHIPS APPROACHING THE COAST SHOULD STILL CONSULT LOCAL AUTHORITIES REGARDING LOCAL CONDITIONS AND ADVICES.

## E) NAVAREA BULLETIN CANCELLATION MESSAGE Template:

Variable fields in **red**

TSUNAMI BULLETIN CANCELLATION MESSAGE  
IOTWMS TSUNAMI SERVICE PROVIDER AUSTRALIA (JATWC)  
ISSUED AT 1235 UTC WEDNESDAY 16 NOVEMBER 2022

TO: NAVAREA COORDINATORS

THE TSUNAMI BULLETIN NOTIFICATION MESSAGE LISTED BELOW WAS ISSUED IN ERROR AND IS CANCELLED. PLEASE IGNORE THE MESSAGE.

ORIGINAL MESSAGE:

... Copy Original Message Here ...

## Message Dissemination

All the 3 TSPs in the IOTWMS will disseminate maritime bulletins by email to all the NAVAREA coordinators in the IOTWMS Area of Service

# The table indicates the TSPs NAVAREA bulletins for the IOWave25 – 05<sup>th</sup> Nov 2025 scenario.



<b>Scenario</b>	<b>Sumatra Trench</b>
Date & Time (UTC)	05 November 2025 03:00UTC (Wednesday)
Source	Earthquake
Magnitude	M9.2
Depth	10 km
Latitude	3.30N
Longitude	95.96E
Location	Northern Sumatra, Indonesia

TSP AUSTRALIA			TSP INDIA			TSP INDONESIA		
Time (UTC)	Bulletin		Time (UTC)	Bulletin		Time (UTC)	Bulletin	
	#	Details		#	Details		#	Details
03:00		Announcement Message	03:00		Announcement Message	03:00		Announcement Message
03:15	1	Potential Threat (M8.8)	03:15	1	Potential Threat (M8.9)	03:12	1	Potential Threat (M9.1)
03:35	2	Confirmed Threat (9.2)	03:30	2	Confirmed Threat (M9.2)	03:30	2	Confirmed Threat (M9.2)
04:35	3	Confirmed Threat (M9.2)	08:00	3	Confirmed Threat (M9.2)	04:00	3	Confirmed Threat (M9.2)
05:35	4	Confirmed Threat (M9.2)	12:00	4	Confirmed Threat (M9.2)	05:00	4	Confirmed Threat (M9.2)
06:35	5	Confirmed Threat (M9.2)	15:00	5	Final Bulletin	06:00	5	Confirmed Threat (M9.2)
07:35	6	Confirmed Threat (M9.2)				07:00	6	Confirmed Threat (M9.2)
08:35	7	Confirmed Threat (M9.2)				08:00	7	Confirmed Threat (M9.2)
09:35	8	Confirmed Threat (M9.2)				09:00	8	Confirmed Threat (M9.2)
10:35	9	Confirmed Threat (M9.2)				10:00	9	Confirmed Threat (M9.2)
11:35	10	Confirmed Threat (M9.2)				11:00	10	Confirmed Threat (M9.2)
12:35	11	Confirmed Threat (M9.2)				12:00	11	Confirmed Threat (M9.2)
13:35	12	Confirmed Threat (M9.2)				13:00	12	Final Bulletin
14:35	13	Final Bulletin						

It is observed that the frequency of NAVAREA bulletins issued by each Tsunami Service Provider (TSP) for the IOWave25 exercise varies.

Feedback from the IOWave25 exercise received from NAVAREA Coordinators and the IHO WVNWS-SC will be reviewed at the ICG/IOTWMS to finalise content, aligning NAVAREA requirements with the existing IOTWMS public bulletin dissemination policy.



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Thank You