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**Intergovernmental  
Oceanographic  
Commission**

# Report of The Indian Ocean Tsunami Information Centre

14<sup>th</sup> ICG/IOTWMS Meeting  
17-19 November 2024

**Ardito M KODIJAT**

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# IOTIC Term of Reference (2022)

## IOTIC's Roles

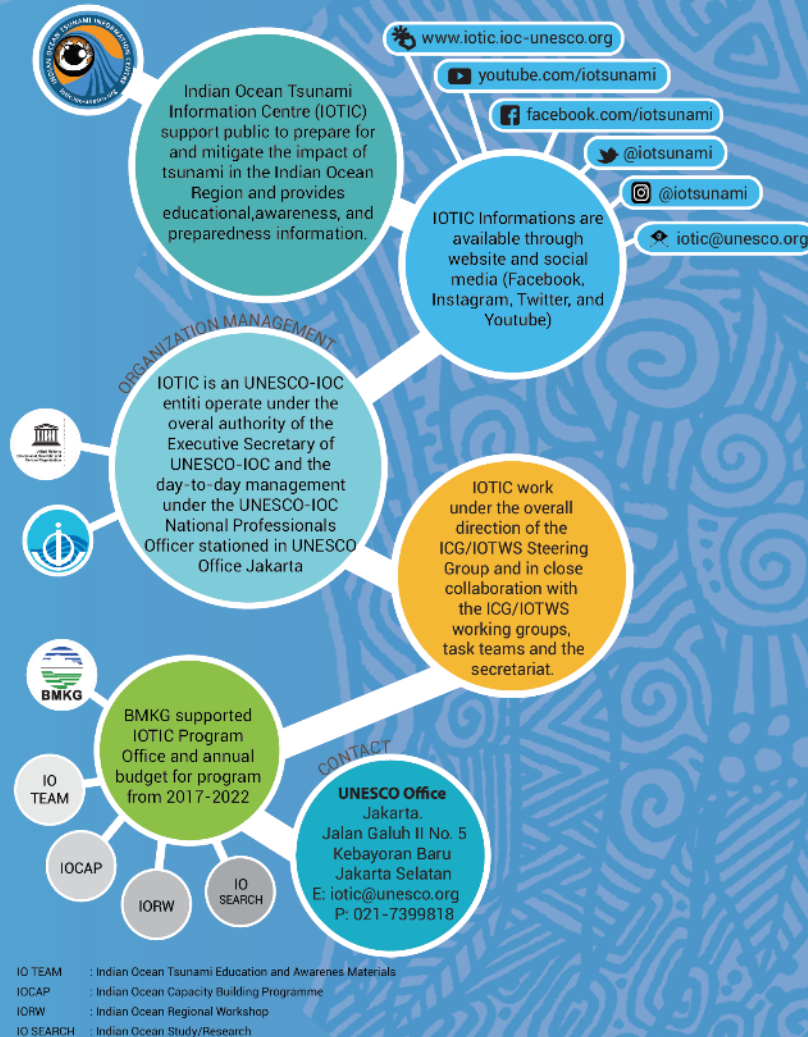
Work with the Tsunami Service Providers (TSPs), the National Tsunami Warning Centres (NTWCs), and the National Disaster Management Offices (NDMOs) in the Indian Ocean Region to promote and sensitize information on tsunami early warning system and the understanding of the warning process and products.

Supports Indian Ocean member states at national and community level to strengthen awareness and preparedness for an effective emergency response to a tsunami early warning system through i.e UNESCO IOC Tsunami Ready.

Capacity building and develop education, awareness, and preparedness materials for an effective tsunami early warning and Mitigation System.

Manage post-event performance surveys and compilation of reports in close collaboration with the ICG/IOTWS Secretariat under the overall direction of the ICG/IOTWS Steering Group, assisted by teams of experts nominated by the ICG/IOTWS Steering Group as required.

Coordinate activities, exchange materials and information with other Tsunami Information Centres (TICs) from other ocean basins.



- Strengthening the Indian Ocean (national and regional) tsunami disaster risk reduction and emergency response capacity for an effective tsunami early warning system,
- Supporting preparedness against tsunamis of at-risk communities, especially through Member States' implementation of UNESCO-IOC Tsunami Ready Recognition Programme (TRRP).
- Providing resources in tsunami risk reduction, educational, awareness, and preparedness for the Indian Ocean region.

# IOTIC Term of Reference (2022)

## IOTIC-BMKG the A-Team



**Ardito M Kodijat**



**Admiral Musa Julius**



**Alfath Abu Bakar**

**Kian Purna Sinki**

**Litanya Octonovrilna**

**Elizabeth Anggun Pramesthi**



# IOTIC Achievement in a Flash (~ 2024)



- UNESCO IOC Tsunami Unit
- ICG/IOTWMS Secretariat
- ICG/IOTWMS SG / WGs / TTs
- TOWS Task Team for Tsunami Disaster Management and Preparedness
- UNESCO IOC Tsunami Information Centers (CTIC, ITIC, NEAMTIC)
- Ocean Teacher Global Academy Secretariat



- BMKG Geophysics
- BMKG InaTEWS
- BMKG Training Centre (STC OTGA)

**25**

Work with Indian Ocean Member States  
(Active IOTWMS Member States)

- |                |           |            |            |              |                      |
|----------------|-----------|------------|------------|--------------|----------------------|
| Australia      | India     | Madagascar | Mozambique | Seychelles   | Tanzania             |
| Bangladesh     | Indonesia | Malaysia   | Myanmar    | Singapore    | Thailand             |
| Comoros        | Iran      | Maldives   | Oman       | South Africa | Timor Leste          |
| French Reunion | Kenya     | Mauritius  | Pakistan   | Sri Lanka    | United Arab Emirates |
|                |           |            |            |              | Yemen                |



**3**

Work with Tsunami Service Providers

- Bureau of Meteorology (BOM), Australia
- Indian National Centre for Ocean Information Services (INCOIS), India
- Agency for Meteorology, Climatology, and Geophysics (BMKG), Indonesia

**8** Projects

(2012-2020)  
IFIT (1); MFIT (1); UNESCAP (5);  
Charles Englehart Foundation (1)



**7**

Support Indian Ocean Tsunami Wave Exercises (IOWave)  
2009  
2011  
2014  
2016  
2018  
2020  
2023

**9** Past Tsunamis

Information preserved

- 1945 Makran Tsunami
- 1950 Ambon Tsunami
- Central Sulawesi Tsunamis (1938, 1968, and 2018)
- **1979 Lembata Tsunami**
- 1992 Flores Tsunami
- 1994 Banyuwangi Tsunami
- 1995 Dili Tsunami, Timor-Leste
- 1996 Biak Tsunami
- 2000 Banggai Tsunami (On Going)
- 2024 Seychelles and **Maldives**

**10** IORW (Webinars)

(2017-2021) Indian Ocean Regional Workshop and WTAD

**48** Facilitate/support/process Tsunami Ready Community

26 communities in India and 22 communities in Indonesia recognised at UNESCO-IOC Tsunami Ready Community

**383**

Past Tsunamis Eyewitness Stories

**3** IOCAP

(2017-2023) Indian Ocean Capacity Building Training

**2** IOLS

(2020-2023) Indian Ocean Lecture Series during COVID-19 and Tsunami Ready

**3** NTRT

National Tsunami Ready Training (2023)  
Seychelles, Timor-Leste, **Maldives**

**2** Youth

Indian Ocean Youth Video Competition (2021)  
**Tsunami United (2024)**

**3** Tsunami Ready Communication Tools

- 2 TR Boardgame (TR and **RUNAMI**)
- 21 TR E-Posters
- 14 Short Animation Videos



# Summary of Achievements (2023-2024)

## UNESCO-IOC and BMKG Partnership Agreement



### IOTIC-BMKG Programmes (2023-2027)

### Support Indian Ocean Member States Regionally and Nationally

**IOCAP**  
Capacity  
Building

- TEMPP
- NTRT  
(Seychelles,  
Timor-Leste,  
Maldives)
- IOTIC Lecture  
Series

**IORW**  
Workshops

- Workshops  
TIMM and TEP  
in Oman  
(UNESCAP  
Project)
- Webinars
- WTAD

**IOSAP**  
Studies  
Assessment  
and Projects

- Preserving Past  
Tsunami Information.
  - 1979 Lembata Tsunami
  - 1995 Dili Tsunami, Timor-Leste
  - 2004 Indian Ocean Tsunami  
(Seychelles and Maldives)
- Youth engagement  
TSUNAMI UNITED

**IOEAP**  
Materials  
and Tools

- Booklets.  
Unforeseen  
Threat
- Posters
- Boardgame  
RUNAMI



**2023-2027**



Indian Ocean Tsunami  
Information Centre (IOTIC)

UNESCO IOC - BMKG Programme



# 1. Tsunami Ready

## National Tsunami Ready Training in Timor-Leste

(July 2023)

- Jointly with Chair of WG-3
- 36 Participants from Timor-Leste Civil Protection Agency, Ministries Representatives, NGO, and UN agencies.
- 2 Days training on Introduction to Tsunami Ready
- Interest to implement Tsunami Ready in villages in Dili. Follow ups:
  - Adapting NTRB function to existing disaster coordination mechanism
  - Identifying Tsunami Ready Community for implementation
- Need external technical and expertise support
  - Indicator 1: Development of Hazard Map
  - Indicator 4: Development of Evacuation Map, Plans, and Procedures
  - Indicator 5: Tsunami Signages
  - Indicator 8: Planning Exercise
  - Indicator 9: Tsunami Emergency Response – SOP
  - Indicator 10 – 11: Receiving and Disseminating Warning



# 1. Tsunami Ready

## National Tsunami Ready Training in Seychelles

(November 2023)

- Jointly with Chair of WG-3
- 40 Participants from Seychelles DRMD, Local Government and Communities, Other Ministries and Agencies,
- 3 Days training on Introduction to Tsunami Ready
- Interest to implement Tsunami Ready in villages in Dili. Follow ups:
  - Adapting NTRB function to existing disaster coordination mechanism
  - Identifying Tsunami Ready Community for implementation
- Need external technical and expertise support
  - Indicator 1: Development of Hazard Map
  - Indicator 4: Development of Evacuation Map, Plans, and Procedures
  - Indicator 5: Tsunami Signages
  - Indicator 9: Tsunami Emergency Response – SOP
  - Indicator 10 – 11: Receiving and Disseminating Warning



<https://www.youtube.com/watch?v=t0SCOU7oEzY&t=8s>

<https://www.youtube.com/watch?v=3VBPDhI8sWk&t=17s>

[https://twitter.com/UNDRR\\_Africa/status/1749306531487588612](https://twitter.com/UNDRR_Africa/status/1749306531487588612)



# 1. Tsunami Ready

## National Tsunami Ready Training in Maldives

(August 2024)

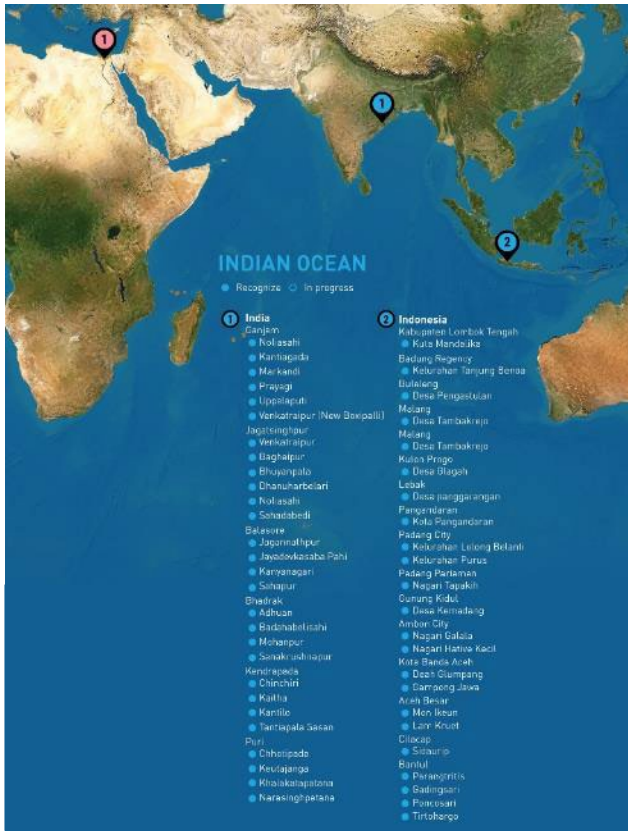
- Jointly with the Chair of WG-3
- 40 Participants from National Disaster Management Authority, NGO, and national and local stakeholders.
- 3 Days training on Introduction to Tsunami Ready
- Need external technical and expertise support
  - Indicator 1: Development of Hazard Map
  - Indicator 4: Development of Evacuation Map, Plans, and Procedures
  - Indicator 5: Tsunami Signages
  - Indicator 8: Planning Exercise
  - Indicator 9: Tsunami Emergency Response – SOP
  - Indicator 10 – 11: Receiving and Disseminating Warning
- Interest in implementing Tsunami Ready in villages in Maldives Follow-ups:
  - Adapting NTRB function to existing disaster coordination mechanism
  - TRRP in Maldives taking the 8 islands as the community i.e., the adaptation of the NTRB function to the Maldives Community Based Disaster Management Coordination.
  - To discuss with UNESCAP on the possibility to include the Maldives in the Phase 3 project.
  - To liaise with BMKG to support NDMA and Island Councils from Maldives to observe the implementation of Tsunami Ready in Indonesia.





## 1. Tsunami Ready

### Tsunami Ready in Indian Ocean



<https://tsunamireadyviewer.ioc-tsunami.org/>

In 2024, In **India**, 24 villages received the UNESCO-IOC Tsunami Ready Recognition, and 2 villages received the renewal:

#### Balasore District

1. Jayadevkasaba Pahi Village,
2. Jagannathpur Village,
3. Kanyanagari Village,
4. Sahapur Village,

#### Bhadrak District

5. Mohanpur Village,
6. Sanakrushnapur Village,
7. Adhuan Village,
8. Badahabelisahi Village, B

#### Ganjam District

9. Kantiagada Village,
10. Markandi Village,
11. Prayagi Villa ge,
12. Uppalapati Village,
13. Venkatraipur (New Baxipalli) Villa ge,

#### Jagatsinghpur District

14. Bahgeipur Village,
15. Bhuyanpala Village,
16. Dhanaharbelari Village,
17. Noli asahi Village,
18. Shadabedi Village,

#### Kendrapada District

19. Chinchiri Village,
20. Kaitha Village,
21. Kantilo Village,
22. Tantiapala \_Sasan Villa ge,

#### Puri District

23. Chhotipada Village,
24. Keutajanga Village,
25. Khalakatapatana Village,
26. Narasinghatana Villa ge,

In addition to the 9 communities already recognized, there are 13 new UNESCO-IOC Tsunami Ready villages recognized in **Indonesia (2023-2024)**.

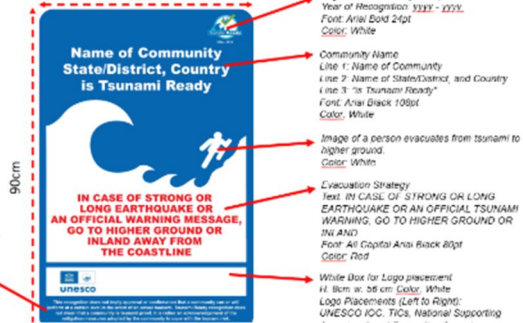
1. Nagari Tapakih
2. Pengastulan
3. Galala
4. Hative Kecil
5. Deah Glumpang
6. Gampong Jawa
7. Lam Kruet
8. Mon Ikeun
9. Sidaurip
10. Parangtritis,
11. Tirtohargo,
12. Poncosari, and
13. Gadingsari

# 1. Tsunami Ready

## Tsunami Ready Tool Kits (IOTIC- ITIC)

### Draft Toolkit for UNESCO-IOC Tsunami Ready Sign

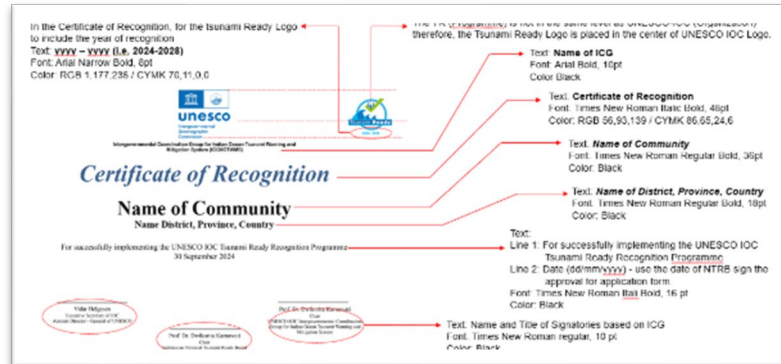
- Evacuation Strategy: **The safe place is on higher ground and further inland.**
- Signage
  - Size: 90x60 cm
  - Color: Blue
  - RGB: 0,98,172
  - CMYK: 93,64,2,0



- Year of Recognition: **xxxx - xxxx**  
Font: Arial Bold 24pt  
Color: White
- Community Name  
Line 1: Name of Community  
Line 2: Name of State/District, and Country  
Line 3: "is Tsunami Ready"  
Font: Arial Black 100pt  
Color: White
- Image of a person evacuates from tsunami to higher ground  
Color: White
- Evacuation Strategy  
Text: **IN CASE OF STRONG OR LONG EARTHQUAKE OR AN OFFICIAL WARNING MESSAGE, GO TO HIGHER GROUND OR INLAND AWAY FROM THE COASTLINE**  
Font: All Capital Arial Black 18pt  
Color: Red
- White Box for Logo placement  
41.8cm x 18.6cm Color: White  
UNESCO-IOC, TICs, National Supporting

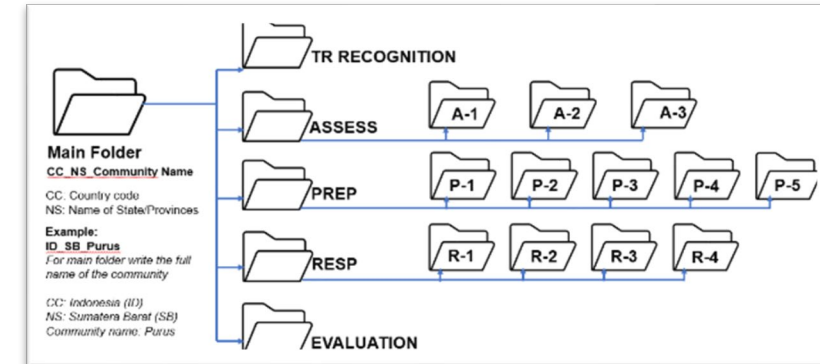
Disclaimer Text:  
"This recognition does not imply approval or confirmation that a community can or will perform at a certain level in the event of an actual tsunami. Tsunami Ready recognition does not mean that a community is tsunami proof. It is rather an acknowledgement of the mitigation measures adopted by the community to cope with the tsunami risk."  
Font: Arial Bold 10pt  
Color: White

### Draft Toolkit for UNESCO-IOC Tsunami Ready Recognition and Appreciation Certificates



- In the Certificate of Recognition, for the Tsunami Ready Logo to include the year of recognition  
Text: **xxxx - xxxx (i.e. 2024-2028)**  
Font: Arial Narrow Bold, 8pt  
Color: RGB 1,177,236 / CMYK 70,11,0,0
- Text: **Name of ICG**  
Font: Arial Bold, 11pt  
Color: Black
- Text: **Certificate of Recognition**  
Font: Times New Roman Bold, 14pt  
Color: RGB 56,93,139 / CMYK 86,65,24,6
- Text: **Name of Community**  
Font: Times New Roman regular, 10pt  
Color: Black
- Text: **Name of District, Province, Country**  
Font: Times New Roman Regular, 10pt  
Color: Black
- Text:  
Line 1: For successfully implementing the UNESCO IOC Tsunami Ready Recognition Programme  
Line 2: Date (dd/mm/yyyy) - use the date of NTRB sign the approval for application form  
Font: Times New Roman Italic Bold, 16 pt  
Color: Black
- Text: **Name and Title of Signatories based on ICG**  
Font: Times New Roman regular, 10 pt  
Color: Black

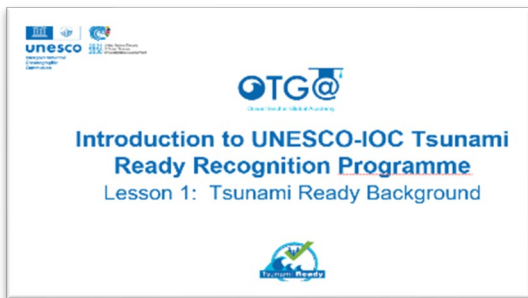
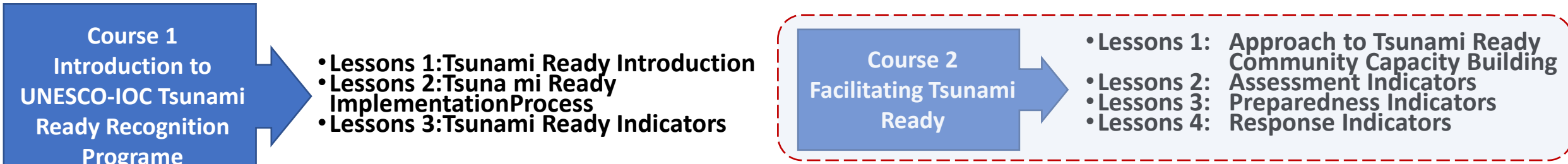
### Draft Toolkit for Folder and File Name in UNESCO-IOC Tsunami Ready Application



**Main Folder**  
CC\_NS\_Community Name  
CC: Country code  
NS: Name of State/Provinces  
**Example:**  
ID\_SB\_Purus  
For main folder write the full name of the community  
  
IC: Indonesia (ID)  
NS: Sumatera Barat (SB)  
Community name: Purus

# 1. Tsunami Ready

## Tsunami Ready Training - OTGA (IOTIC- ITIC)



<https://classroom.oceanteacher.org/>



# 2. Workshops and Webinars

## WTAD Webinar: Fighting Inequality for a Resilient Future in the Context of Tsunamis



- Attended by 113 participants (at the peak) from the Indian Ocean region.

### Topics:

- How to create accessible tsunami early warning for all;
- Research, development, and implementation plan for the Ocean Decade Tsunami Programme;
- Early warning for remote populations from Maldives; and
- Early warning for people with disabilities from Indonesia.

### Showing of UNDRR- UNESCO-IOC 2023 WTAD Videos

- [This is how Madagascar ensures that tsunami warnings reach remote communities](#)
- [Disability protected his community from a tsunami](#)
- [Could a lullaby save people's lives? This Indigenous community has shown how](#)
- [How do we create accessible tsunami early warning](#)

# 2. Workshops and Webinars

## Implementation of UNESCAP Project

**Training in development of tsunami inundation maps by enhancing capacities in tsunami modelling**

*Muscat, Oman 19 – 23 April 2024*

**Training in development of evacuation plans to facilitate effective community responses to the threat from near-field and far-field tsunamis.**

*Muscat, Oman 21-25 April 2024*

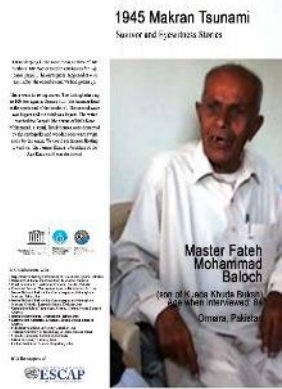


Jointly with the ICG/IOTWMS Secretariat implement the UNESCAP Project  
(Proposal development, Implementation, Project administrative, and Reporting)



# 3. Preserving Past Tsunami Information

2015



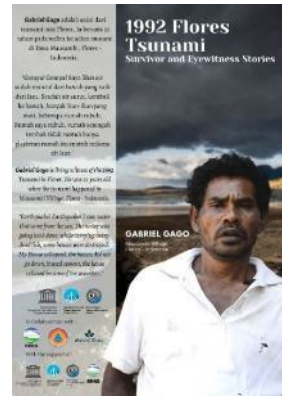
1945 Makran  
Tsunami  
38 videos

2016



1950 Ambon  
Tsunami  
28 videos

2018



1992 Flores  
Tsunami  
45 videos

2019



1994  
Banyuwangi  
Tsunami  
46 videos

2020



Central Sulawesi  
Tsunamis (1927,  
1938, 1968,  
1996, 2018)  
30 videos

2021



1996 Biak  
Tsunami  
60 Videos

2022



2000 Banggai  
Tsunami  
72 Videos

2023



1995 Dili  
Tsunami  
East Timor  
37 Videos

2023



2004 Indian  
Ocean  
Tsunami in  
Seychelles  
8 Videos

2024



Global Tsunami  
Survivors  
(Indonesia,  
Japan, India,  
Sri Lanka,  
Chille, Greece  
Turkey)  
15 videos



1979  
Lembata  
Tsunami  
21 Videos

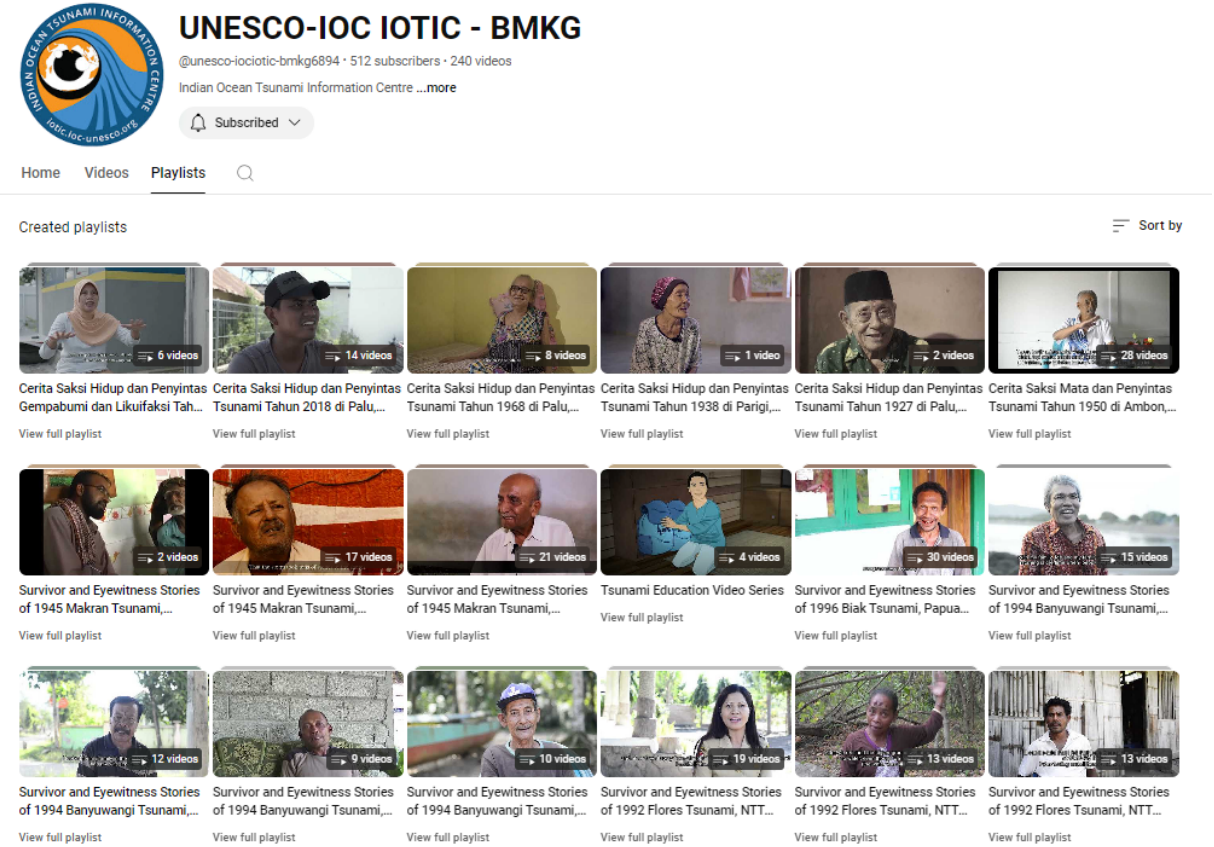


2004 Indian  
Ocean  
Tsunami in  
Maldives  
10 Videos



# 3. Preserving Past Tsunami Information

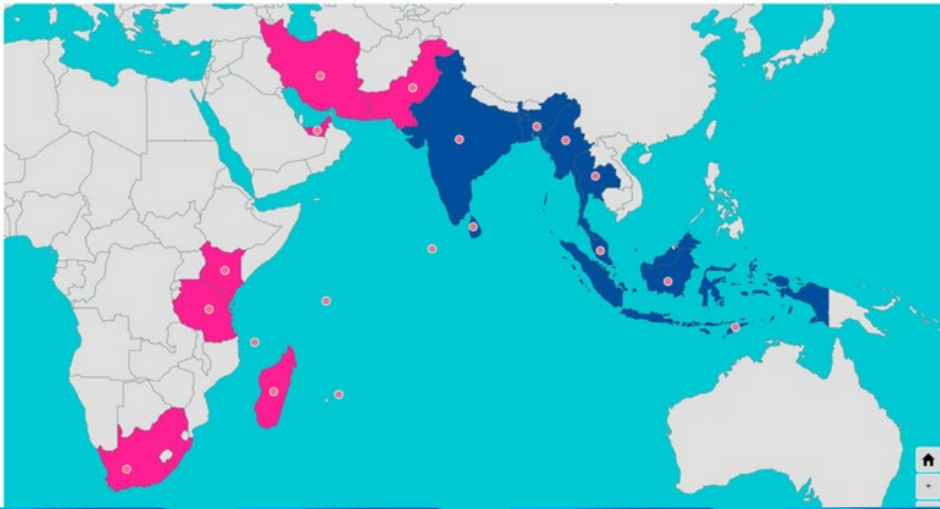
## Video Documented 383 Stories of Eyewitness and Survivors of Past 14 Tsunamis (252 in YouTube IOTIC 131 in Process)



# 4. IO Youth Engagements

## Connecting the next generation to build coastal resilience

Uniting High Schools  
Across the Indian Ocean Regions



**263 Students**   **117 Teachers**   **59 Schools**   **19 Countries**



# TSUNAMI UNITED

TSUNAMI UNITED equips youth with knowledge about tsunami hazards, awareness, and preparedness, fostering a network of learning and collaboration among high school students in the Indian Ocean. Engaging the high school students about tsunamis and risk communication. A meaningful initiative to spark conversations and educational efforts among young students in the Indian Ocean Member States.





# 4. IO Youth Engagements

## 31 Tsunami Awareness Submission from Indian Ocean High School Students of 26 Schools of 13 Countries.

### Region 1: Eastern Indian Ocean

15 Submissions (Bangladesh, Indonesia, Malaysia, Myanmar, and Thailand)

### Region 2: Northwestern Indian Ocean

6 Submissions (Iran and UAE)

### Region 3 Indian Ocean SIDS

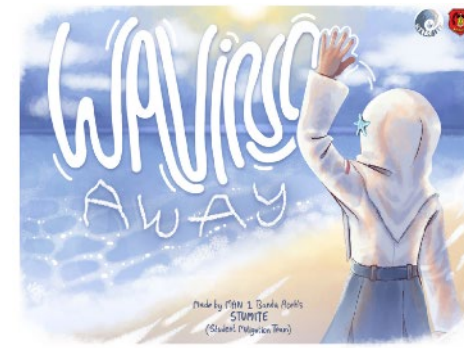
5 Submissions (Maldives, Mauritius, Seychelles)

### Region 4 Western Indian Ocean

5 Submissions (Madagascar, Kenya, South Africa)

**To see their campaigns with the website**

<https://tsunamiunited.uinspire.id/tsunami-united-campaign-competition-result/>



**WAVING AWAY**

STUMITE  
(Student Mitigation Team)  
of MAN 1 Banda Aceh

Leader:  
Farid Alhafid Fauzallin

Author:  
Dita Azzuhra, Cut Nallo Talitha,


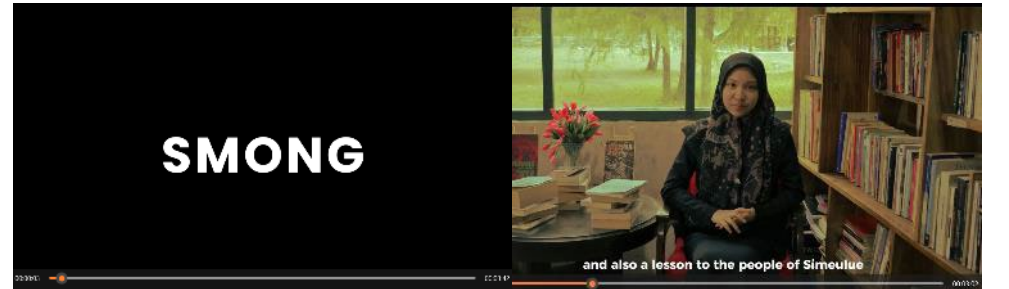
Setting Idea:  
Muhammad Rafi Rahman

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Dita Azzuhra, Ms. Rafika Fratwi

Setting and Drawing Designer:  
Muhammad Rafi Rahman,  
Cut Anya Yunita

Coloring Designer:  
Cut Anya Yunita, Cut Nallo Talitha,  
Dita Azzuhra

Mentor:  
Ms. Rafika Fratwi, Ms. Siti Sarah



# 5. Public Education Materials

Development of community education materials on the natural warnings signs for tsunamis generated by non-seismic and complex sources



**18 Pages**

## **CHAPTER 1** The Birth of Destruction: A Deeper Look into Tsunami Generation and Impacts.

1. Understanding the Genesis of Tsunami
2. Unleashing Global Synergy to Non-Seismic Tsunami Impact on Lives and Livelihoods

## **CHAPTER 4** Problems and Solutions: Early Warning System and Emergency Response of Non-Seismic Tsunami.

1. Early Warning System Challenges
2. Emergency Response Challenges
3. Real - World Cases: Lesson and Best Practices

## **CHAPTER 2** Observing to the Ocean: The Natural Sign of Non-Seismic Tsunami.

1. Ground Shaking or Tremors
2. Explosion
3. Sudden Changes in Sea Water Condition

## **CHAPTER 3** When Disaster Strikes: Non-Seismic Tsunami Case Studies.

1. The World's Deadliest Non-Seismic Tsunami Events
2. The Tallest Non-Seismic Tsunami Waves
3. Recent Significant Non-Seismic Tsunami Events

## **CHAPTER 5** Safety Guidance for Non-Seismic Tsunami.

**Draft already reviewed by WG-1, WG2, and WG-3**

**AEP Materials and Tools**

# 5. Public Education Materials

## Tsunami Ready Boardgame: Runami

Launched at the 20<sup>th</sup> Year Commemoration of 2004 Indian Ocean Tsunami

Game-based Learning Approach on



- Tsunami Awareness
- Tsunami Preparedness
- Tsunami Evacuation
- Tsunami Drills



Play and learn to develop Tsunami Evacuation Route to save people in a tsunami inundated area as many as possible in the shortest time.

# Plan 2025 -

## IOCAP Capacity Building

TEMPP and TRRP  
Regional Training  
(IOTIC UNESCAP  
ICG/IOTWMS)

NTRT  
(Mauritius or  
Madagascar)

## IORW Workshops

World Tsunami  
Awareness Day  
Workshop

GPDRR Theme 2025  
'Everyday counts, Act  
for Resilience Today'

## IOSAP Studies Assessment and Projects

1. Preserving Past Tsunami Information.
  - 1998 Taliabu Island Tsunami (34 Death, 8 Missing, 672 house destroyed).
  - 2004 Indian Ocean Tsunami (Mauritius / Madagascar)
2. Youth engagement
  - TSUNAMI UNITED - 2

## IOEAP Materials and Tools

Boardgame  
**Tsunami Ready  
Boardgame V.2**

3. Tsunami Ready
  - Introduce STEP-A in Indian Ocean Tsunami Ready Implementation.



# IOTIC Challenges and Gaps

1. Sustainability of IOTIC → Re-generation IOTIC
2. Working mechanism and procedure within IOTWMS for IOTIC program and activities, i.e. engagement with TNC, NTWC, and DMO, WG, TT, etc.
3. Role of IOTIC in:
  1. UNESCO-IOC Tsunami Ready Recognition Programme
  2. UN Ocean Decade Tsunami Program in Indian Ocean
  3. Capacity building, workshops/webinars, and training
  4. Project implementation and coordination
4. Participation of MS in IOTIC programme and activities and the follow up and sustainability post implementation.
5. Engagement and involvement of MS' Youth and Young Professionals → Re-generation of TWMS champions in MS.
6. Resources (funding and man-power) for IOTICs to support, facilitate, and process MS' UNESCO IOC Tsunami Ready Recognition Programme (i.e. implementation, verification process).
7. Communication and information, management, maintenance, and update and sustaining the IOTIC website and social Media.

# Thank you



**Ardito M. KODIJAT**  
[a.kodijat@unesco.org](mailto:a.kodijat@unesco.org)

***UNESCO-IOC Indian Ocean Tsunami Information Centre  
IOTIC-BMKG Programme Office***

***Disaster Risk Reduction and Tsunami Information Unit  
UNESCO Jakarta Office***

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