



unesco

Intergovernmental
Oceanographic
Commission

Exercise Indian Ocean Wave 2025 (IOWave25)

Ajay Kumar Bandela

Chair, IOwave25 Task Team

Scientist 'E'

INCOIS, India

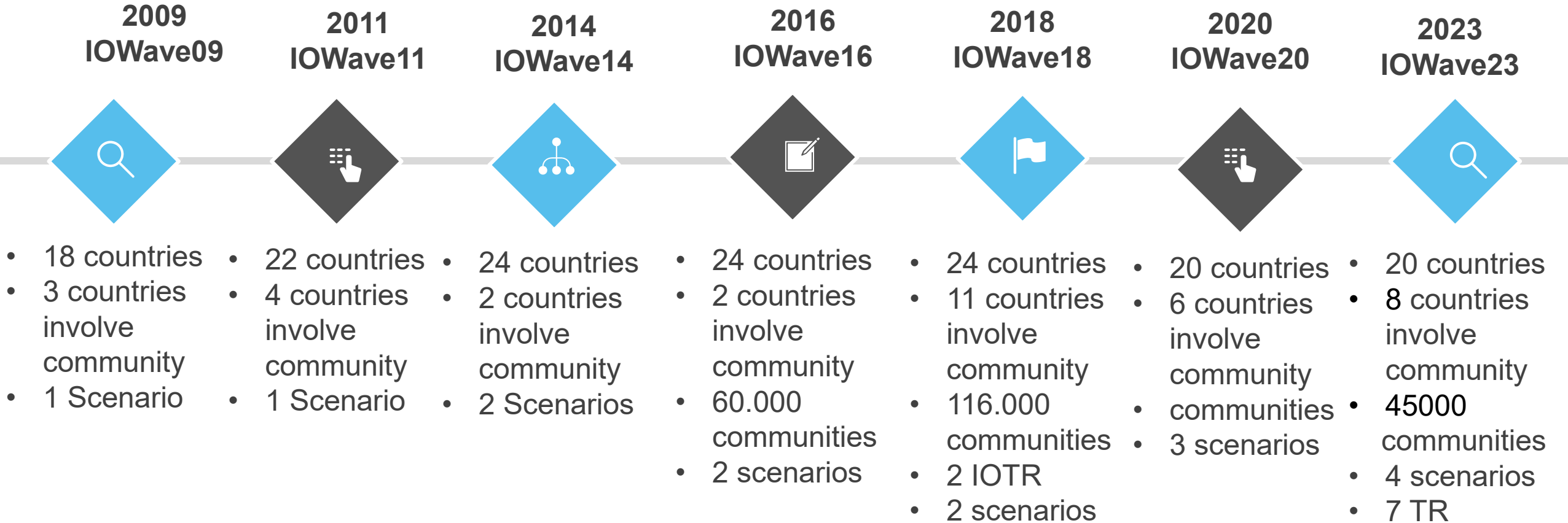
ajay@incois.gov.in

Ms. Septa Anggraini, Indonesia – Vice Chair, IOWave25 TT

Acknowledgements: Secretariat of ICG/IOTWMS UNESCO-IOC

19th Meeting of ICG/IOTWMS Steering Group, Jakarta, 17-19 June 2025

Term Milestone of IOWave Exercises



Term of Reference (ToR) on IOWave25 Exercise

Under the Steering Group

Plan and coordinate the next IOWave Exercise (IOWave25), taking on-board suggestions from **the post-IOWave23 lessons learnt workshop including an increased focus on LDMO down to community level and implementation of TRRP.**

Prepare the IOWave25 Exercise Manual in accordance with the Guideline on "How to Plan, Conduct and Evaluate Tsunami Exercises" (IOC Manuals and Guides No. 58) at least 6 months in advance of the exercise,

Prepare **the Exercise Report for ICG/IOTWMS-XV.**

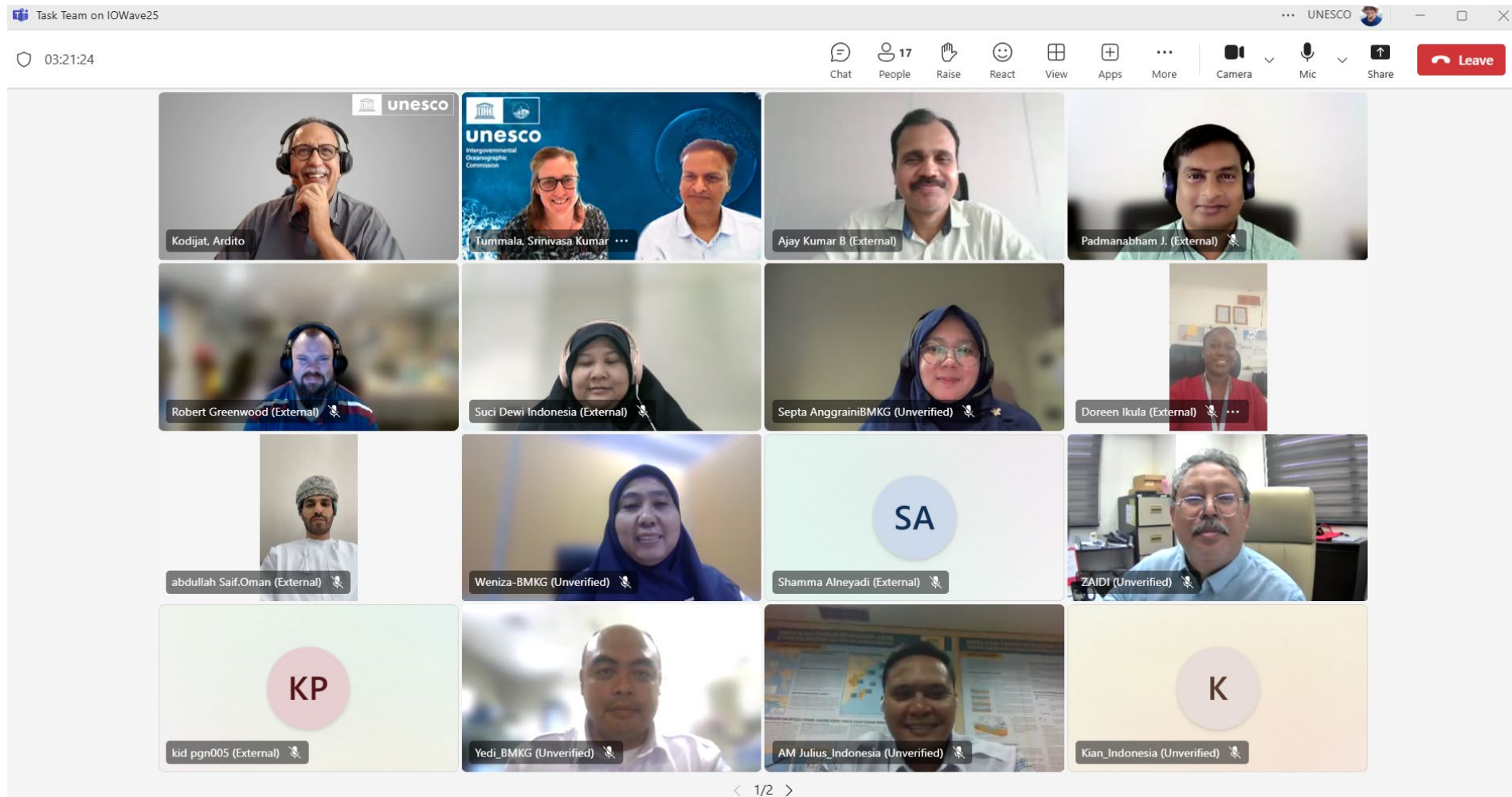
The Task Team will work in collaboration with Working Group 1, Working Group 2, Working Group 3 and IOTIC and be composed of members nominated by member states and representative from TSPs, with a chairperson and vice-chairperson.

IOWave25 Task Team

- **Dr Ajay Kumar B**, INCOIS, India - Chair
- **Ms Septa Anggraini**, Indonesia – Vice Chair
- Ms Kate Parkey (tbc), Australia - Member
- Dr Nuraini Rahma Hanifa, Indonesia - Member
- Mr Zaidi Zainal Abidin, Malaysia - Member
- Mr Abdullah Al Busafi, Oman - Member
- Ms Doreen Ikula, Seychelles - Member
- Mr Chathura Liyanaarachchige, Sri Lanka - Member
- Mr Badr Alameri, UAE - Member
- Mrs Shamma Alneyadi, UAE - Member
- Mr Hadif Alshehhi, UAE - Member
- Mr Ali Almehrzi, UAE - Member
- Mr Abduallah Alymmahi, UAE - Member
- Mr Hilal Alkaabi, UAE - Member
- Dr Robert Greenwood (tbc) Australia, TSP Australia Representative
- Mr Yedi Dermadi (tbc), Indonesia, TSP Indonesia Representative
- Dr Weniza, Indonesia - WG1 Chair
- Mr Padmanabham Jijavarapu, India - WG2 Chair / TSP India Representative
- Ms Suci Dewi Anugrah, Indonesia - WG3 Chair
- Mr Ardito Kodijat - IOTIC

IOWave25 Task Team

IOWave25 Task Team 1st meeting (online) held on 30 April 2025



Task Team on IOWave25

03:21:24

Chat People Raise React View Apps More Camera Mic Share Leave

unesco

unesco Intergovernmental Oceanographic Commission

Kodijat, Ardito

Tummala, Srinivasa Kumar

Ajay Kumar B. (External)

Padmanabham J. (External)

Robert Greenwood (External)

Suci Dewi Indonesia (External)

Septa AnggrainiBMKG (Unverified)

Doreen Ikula (External)

abdullah Saif.Oman (External)

Weniza-BMKG (Unverified)

Shamma Alneyadi (External)

ZAIDI (Unverified)

KP

kid pgn005 (External)

Yedi_BMKG (Unverified)

AM Julius_Indonesia (Unverified)

Kian_Indonesia (Unverified)

SA

1/2

IOWave25 Exercise Purpose

- To **evaluate and improve the effectiveness of the IOTWMS**, through its operational TSPs, NTWCs, NDMOs and LDMOs, in responding to a potentially destructive tsunami.
- To test their **operational lines of communications**, to review their tsunami warning and emergency response SOPs, and to promote emergency and community preparedness.

Objectives

1. Procedures in place to ensure tsunami warnings get to all in the community, including those with disabilities, all genders, elderly, and youth. – **Inclusive of Tsunami Warning**
2. Level of community awareness, preparedness, and response. – **Tsunami Resilience in The Community**
3. SOPs [associated with tsunami warning chains](#) within countries **for generating and disseminating tsunami warnings to their relevant emergency** response agencies, other authorities, media, and the public.
4. SOPs [associated with tsunami warning chains](#) within countries **for the issuing of public safety messages, ordering evacuations and where possible issuing all-clear messages.**
5. Dissemination by **TSPs of Tsunami Bulletin Notification Messages to NTWCs via Tsunami Warning Focal Points (TWFPs)** of Indian Ocean countries and the reception by NTWCs of the TSP messages.
6. [Dissemination by TSPs of Tsunami Bulletin Notification messages for NAVAREA stakeholders to ensure navigational safety and security.](#)
7. Access by NTWCs to the tsunami bulletins and other products on the TSP websites, and the use of that information to produce national warnings. Validate the reporting by NTWCs to the TSPs of their National Tsunami Warning Status.
8. Reporting by NTWCs to the TSPs of their National Tsunami Warning Status.
9. Receipt and understanding by NTWCs of new TSP service for tsunamis generated by non-seismic and complex sources.

* Text added based on the IOWave25 TT meeting on 30 April 2025

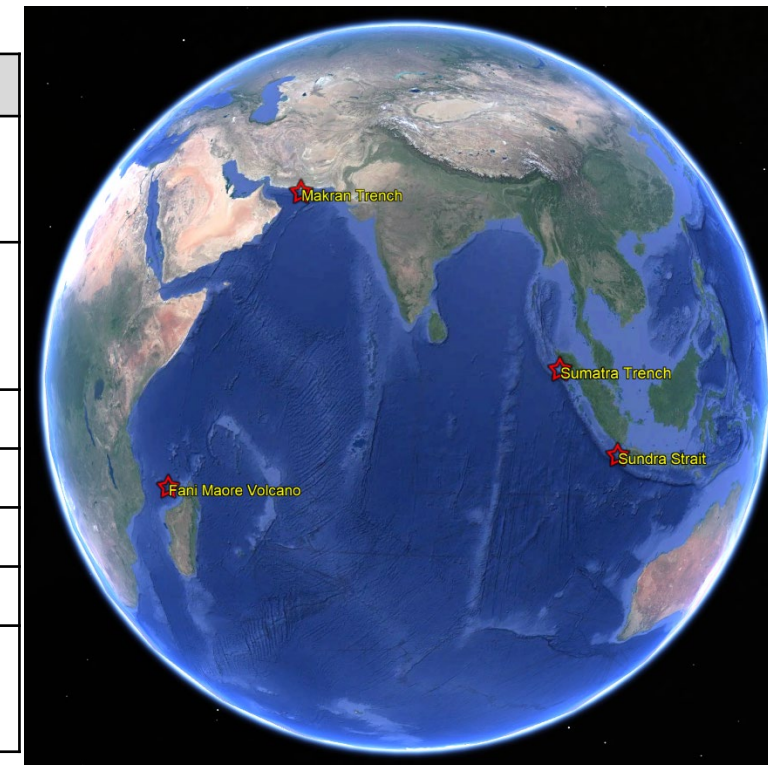
Exercise Involvement and Participation Level

The following organisations should be involved in the Exercise:

- Tsunami Service Providers (TSPs)
 - National Tsunami Warning Centres (NTWCs)
 - National Disaster Management Organisations (NDMOs)
 - Local Disaster Management Organisations (LDMOs)
 - Media Organisations
 - Local Communities
-
- Member States are invited to participate in at least one scenario or all scenarios (if country fall under threat);
 - Member States are encouraged to conduct community evacuations;
 - All Member States, particularly those piloting the Programme, are encouraged to use the UNESCO-IOC Tsunami Ready guidelines and indicators to guide their community preparation for IOWave25 exercise.

IOWave25 Scenario

Scenario	1. Sunda Trench	2. Makran Trench	3. Fani Maore Volcano	4. Sumatra Trench
Date	25 September 2025 (Thursday)	15 October 2025 (Wednesday)	25 October 2025 (Saturday)	05 November 2025 (Wednesday)
Time	01:00 UTC	06:00 UTC	15:00 UTC (eruption at 14:00 UTC)	03:00 UTC
Magnitude	~M9.0	~M9.0	n/a	~M9.2
Depth	10 km	10 km	n/a	10 km
Latitude	6.94°S	24.80°N	12.92°S	3.30°N
Longitude	104.70°E	62.20°E	45.72°E	95.96°E
Location	Sundra Strait, Indonesia	Off Coast of Pakistan	Fani Maore Volcano	Northern Sumatra, Indonesia



Sunda Strait Scenario on 25 Sept 2025

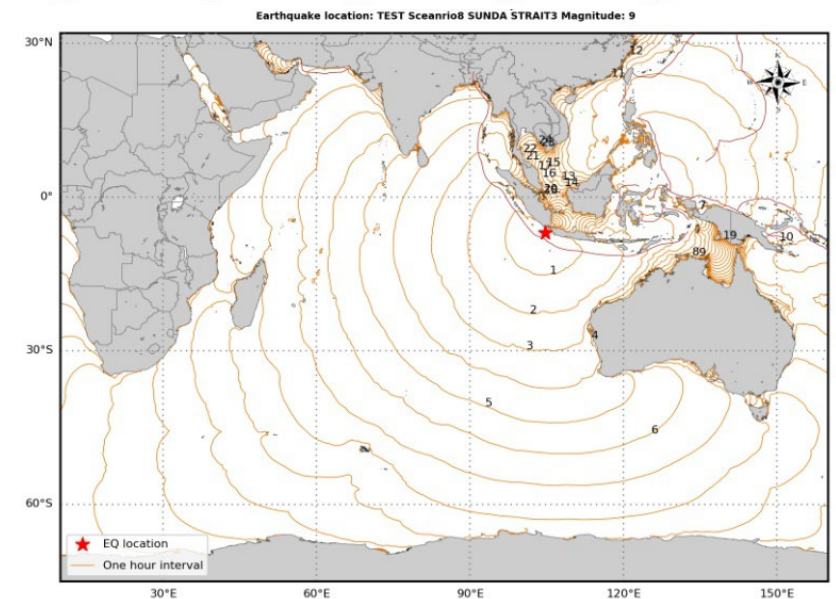
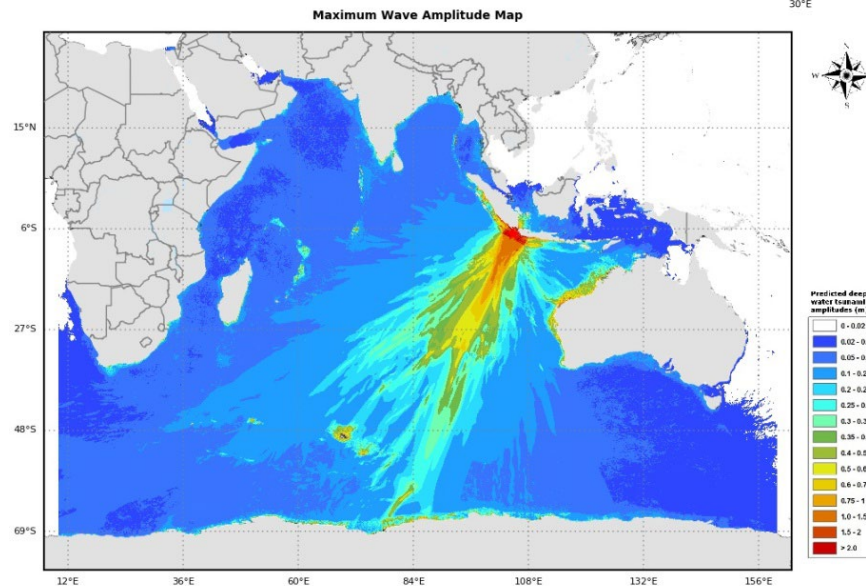
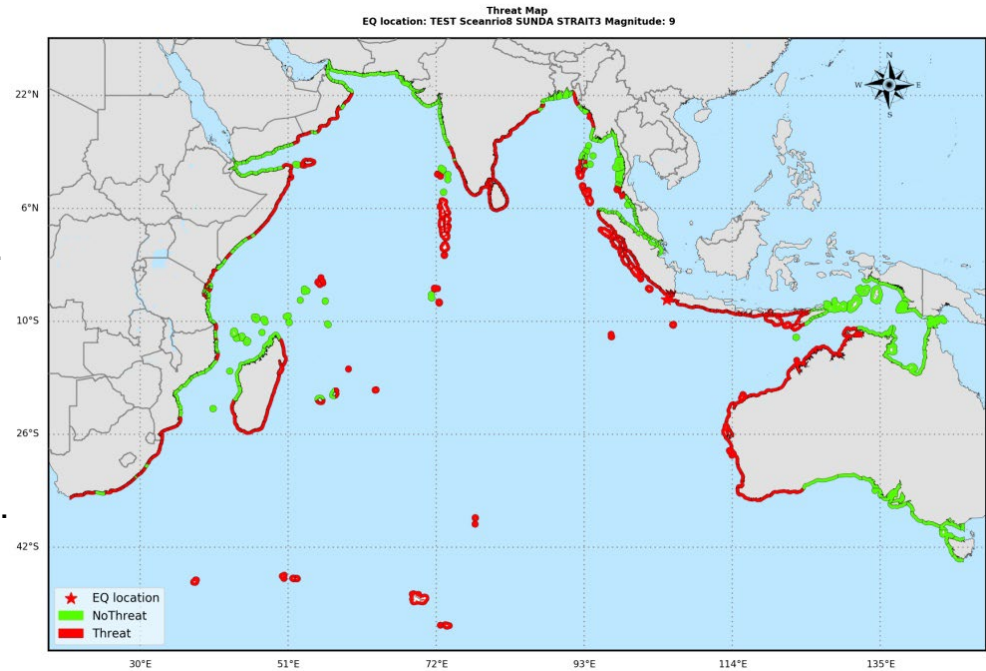
Mag 9.0 Epicentre: 6.94S 104.7E
Sunda Strait, Indonesia

Origin Time: 0430Z (example)

Australia	0449Z	4.0m
Bangladesh	0456Z+1	0.5m
France	1047Z	2.8m
India	0931Z	1.7m
Indonesia	0435Z	13.3m
Kenya	2316Z	0.6m
Madagascar	1317Z	1.8m
Maldives	0936Z	2.5m
Mauritius	1158Z	0.8m
Mozambique	2225Z	1.1m
Myanmar	0014Z+1	0.7m
Oman	1634Z	0.7m
Seychelles	1556Z	0.7m
Somalia	1330Z	1.2m
South Africa	1728Z	1.4m
Sri Lanka	0832Z	1.9m
Tanzania	0017Z+1	0.5m
Thailand	0150Z+1	0.7m
Timor Leste	0800Z	0.6m
Yemen	1534Z	1.2m

Scenario 1 starting at 01:00 UTC on Thursday 25 September 2025: Magnitude 9.0 earthquake in Sunda Strait, Indonesia. The simulated tsunami will take approximately 0 hours to travel from its source to Indonesia; 2.5 hours to travel to Australia; 3.0 hours to travel to Timor-Leste; and 4.0 hours to travel to Sri Lanka.

20 countries under threat



Off coast of Pakistan Scenario on 15 Oct 2025

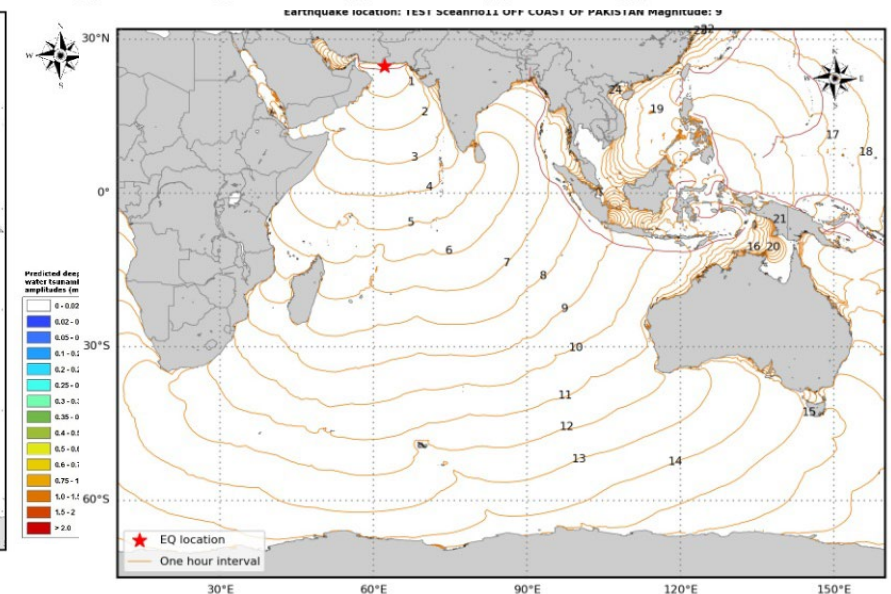
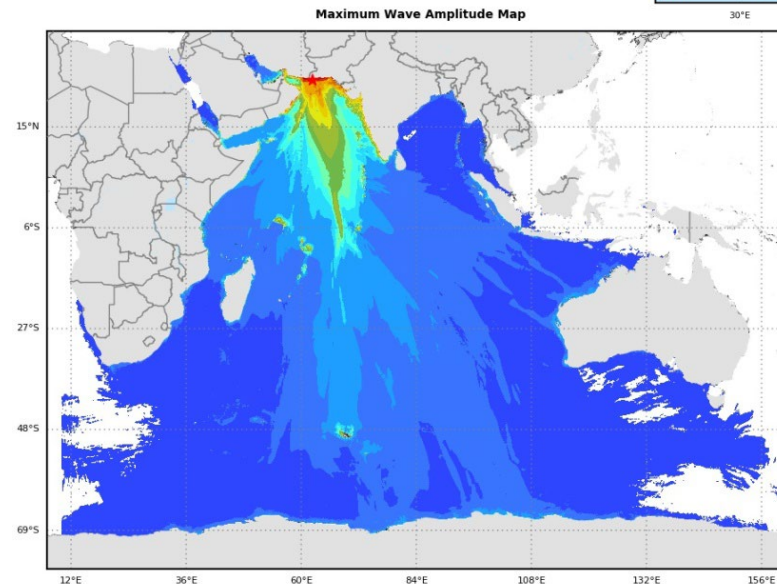
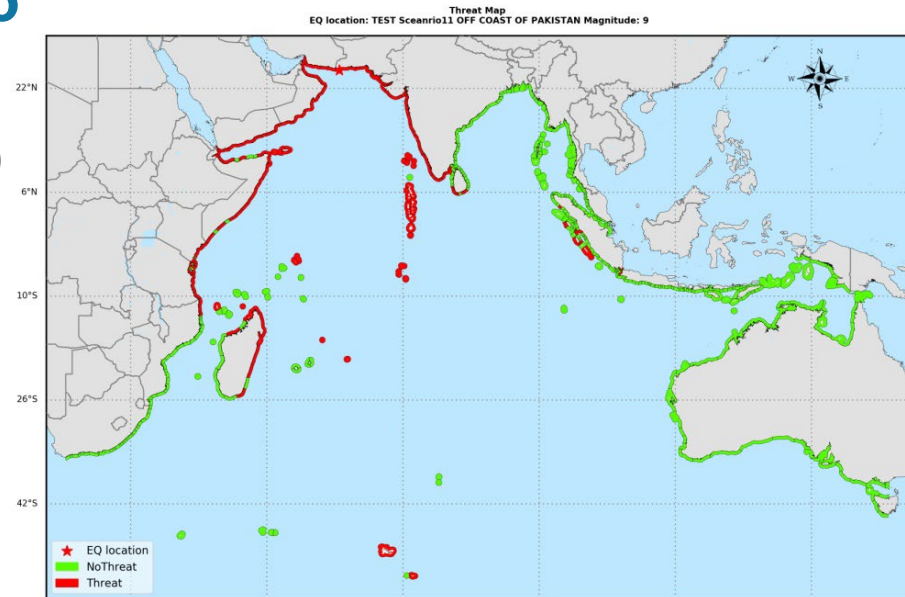
Mag 9.0 Epicentre: 24.8 N 6.2 E
Off Coast of Pakistan

Origin Time: 0600Z

Australia	1954Z	0.7m
Comoros	1335Z	0.7m
Djibouti	1127Z	1.4m
France	1854Z	1.4m
India	0804Z	2.7m
Indonesia	1918Z	0.7m
Iran	0604Z	7.1m
Kenya	1433Z	1.5m
Madagascar	1302Z	1.3m
Maldives	0927Z	2.2m
Mauritius	1413Z	0.9m
Mozambique	1632Z	1.1m
Oman	0627Z	3.8m
Pakistan	0603Z	7.2m
Seychelles	1050Z	1.2m
Somalia	0927Z	1.9m
Sri Lanka	1109Z	0.8m
Tanzania	1508Z	0.8m
UAE	0717Z	1.7m
Yemen	0835Z	1.9m

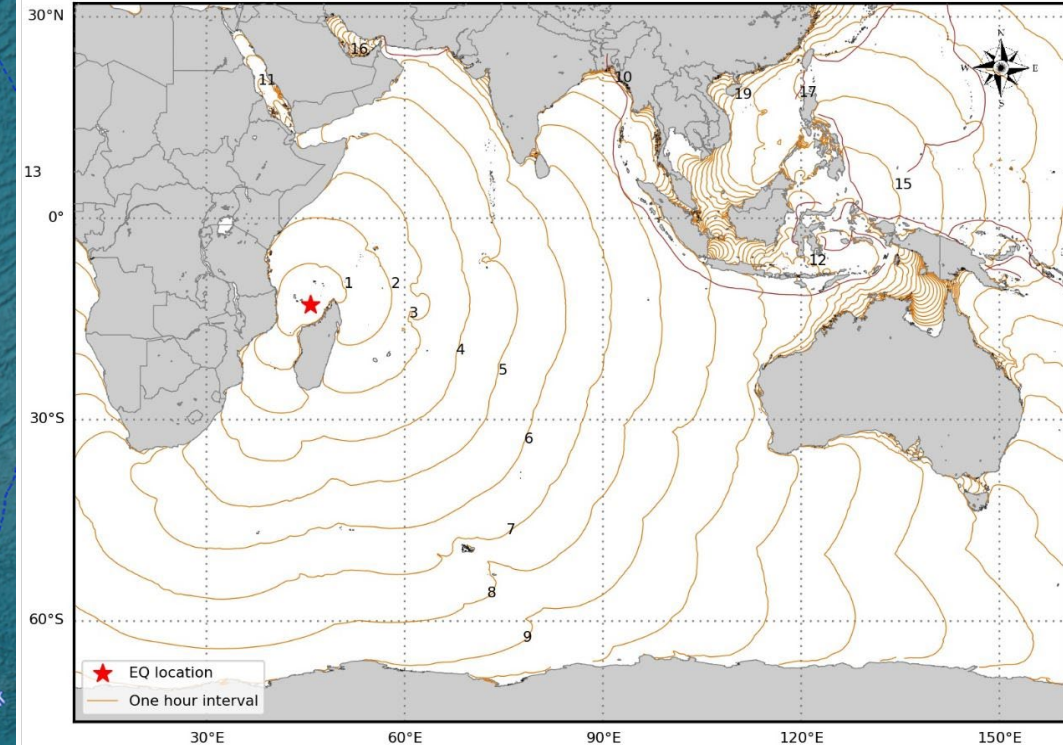
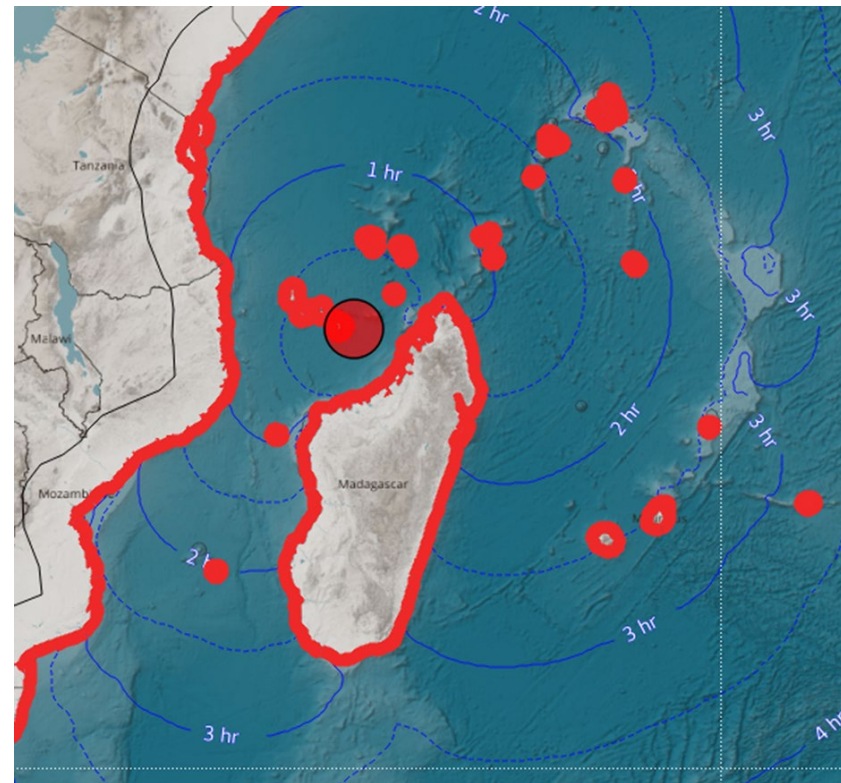
Scenario 2 starting at 06:00 UTC on Wednesday 15 October 2025: Magnitude 9.0 earthquake in the Makran trench off the coast of Pakistan. The simulated tsunami will take approximately 0 hours to travel from its source to Pakistan and Iran; 0.5 hours to travel to Oman; 1.0 hours travel to United Arab Emirates; and 2 hours to travel to India

20 countries under threat



Fani Maore Volcano Scenario on 25 Oct 2025

Scenario 3 starting at 15:00 UTC (eruption at 14:00 UTC) on Saturday 25 October 2025: Tsunami generated by volcanic eruption at Fani Maore in the Mozambique Channel between Madagascar and the eastern coast of Africa. The simulated tsunami will take approximately 0 hours to travel to Mayotte(France), Comoros, and Madagascar; 0.5 hours to travel to Seychelles; 1.0 hours to travel to Mozambique & Tanzania; and 2.0 hours to travel to Mauritius, Kenya, and Somalia.



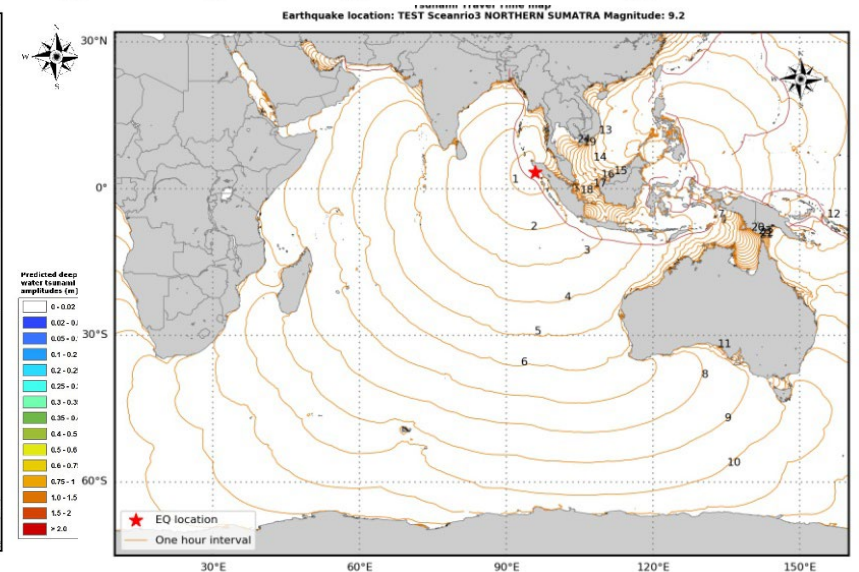
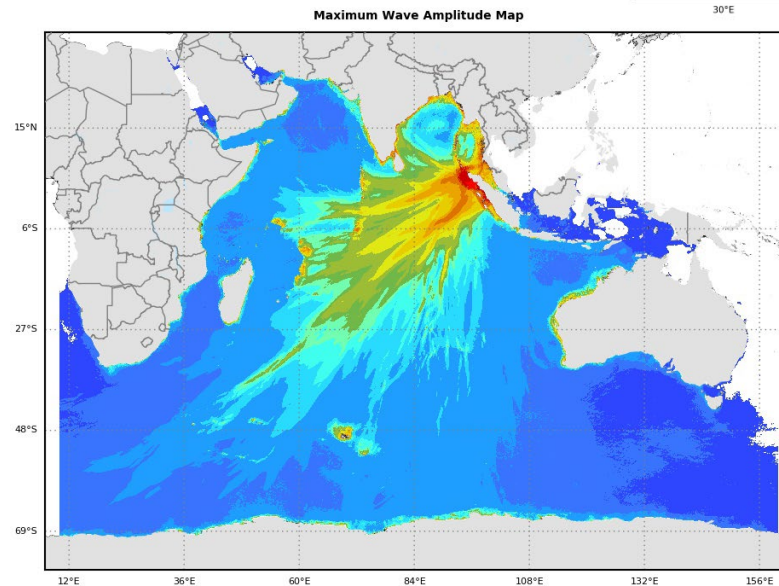
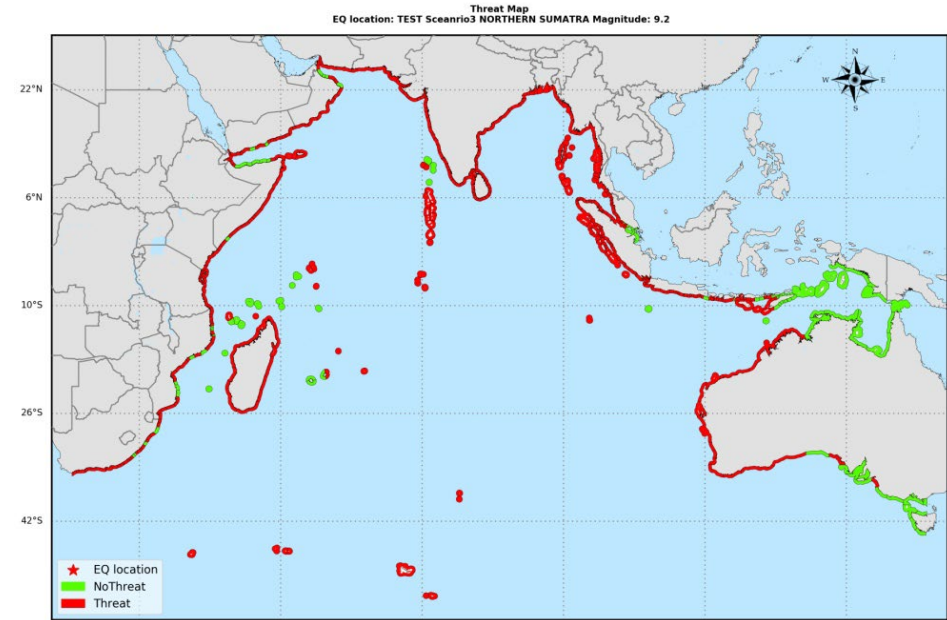
Northern Sumatra Scenario on 05 Nov 2025

Origin Time: 0200Z (example)

Australia	0432Z	1.9m
Bangladesh	0604Z	1.8m
Comoros	1049Z	1.0m
Djibouti	1210Z	1.5m
France	0918Z	4.0m
India	0202Z	7.3m
Indonesia	0202Z	17.1m
Iran	1243Z	1.4m
Kenya	1040Z	1.7m
Madagascar	0953Z	1.5m
Malaysia	0458Z	2.4m
Maldives	0513Z	3.7m
Mauritius	0753Z	1.6m
Mozambique	1115Z	1.1m
Myanmar	0335Z	2.7m
Oman	0940Z	1.1m
Pakistan	1405Z	1.1m
Seychelles	0841Z	1.7m
Somalia	0945Z	3.4m
South Africa	1324Z	1.0m
Sri Lanka	0354Z	4.1m
Tanzania	1059Z	1.4m
Thailand	0311Z	3.1m
Timor-Leste	0105Z+1	0.6m
UAE	1126Z	1.1m
Yemen	0918Z	1.6m

Scenario 4 starting at 03:00 UTC on Wednesday 05 November 2025: Magnitude 9.2 earthquake in Northern Sumatra, Indonesia. The simulated tsunami will take approximately 0 hours to travel from its source to Indonesia; 0.5 hours to travel to India; 1.0 hours to travel to Thailand & Myanmar, and 2.0 hours to travel to Sri Lanka.

26 countries under threat



Check List and Timelines for IOWave25



Sl. No.	Activity	Timeline
1	Announcement by IOC Circular Letter	May 2025
2	Nominate a National Contact for IOWave25	June 2025
3	Set up IOWave25 Exercise National Coordination Committee involving NTWC, LDMOs, NDMOs, and all other important stakeholders including private industry participants	Ongoing
4	Assign agency roles including exercise controller, key participants, and observers	Ongoing
5	Decide on level of participation and identify communities for evacuation (where applicable)	Ongoing
6	Secure funding and support for community activities	Ongoing
7	Address indicators of UNESCO-IOC Tsunami Ready Recognition Programme or similar national initiative (where appropriate)	Ongoing
8	Issue of IOWave25 Exercise Manual by the Secretariat	June 2025
9	Develop a National IOWave25 Exercise Manual to plan/guide activities, including those at community level	June–July 2025
10	UNESCO-IOC Standard Operating Procedure (SOP) Training Workshops (online)	July–August 2025
11	Organise and hold pre-exercise national workshop(s) and meeting(s) with key stakeholders including media	August–September 2025
12	Ensure Standard Operating Procedures are in place and up to date	August–September 2025
13	Share IOWave25 Exercise in-country participation plans with the ICG/IOTWMS Secretariat	September 2025
14	Prepare a media press release	One week before the exercise
15	Participate in IOWave25 Exercise	25 September 15 October 25 October 05 November
16	Hold post-exercise hot and cold debriefs	After the Exercise
17	Complete the IOWave25 online post-exercise evaluation	After the Exercise
18	Revise and improve SOPs in accordance with lessons learnt during the Exercise	After the Exercise
19	IOC-UNESCO Post-IOWave25 Exercise Lessons Learnt Workshop (online)	December 2025

Note: This checklist is intended to serve only as a broad reference and is not all-inclusive.

IOWave25 CL & Manual

The IOC Circular Letter (3041) issued on 23 May 2025 about announcement of IOWave25 exercise. Also requested all Tsunami National Contacts to nominate one **National Contact to IOWave25**.

Intergovernmental Oceanographic Commission
Technical Series

216





EXERCISE INDIAN OCEAN WAVE 25 An Indian Ocean-wide Tsunami Warning and Communications Exercise

25 September – 05 November 2025

Volume 1 Exercise Manual

UNESCO

- The IOWave25 Exercise Manual and supplements are under preparation.
- The manual will provide an **overview** and the supplements with contain all **TSP bulletins and products**.

  INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
COMMISSION Océanographique InterGouvernementale
COMISIÓN OCEANOGRÁFICA INTERGUBERNAMENTAL
МЕЖПРАВИТЕЛЬСТВЕННАЯ ОКЕАНОГРАФИЧЕСКАЯ КОМИССИЯ
اللجنة الدولية الحكومية لعلوم المحيطات
政府間海洋学委員会

UNESCO – 7 Place de Fontenay – 75352 Paris Cedex 07 SP, France
http://ioc.unesco.org - contact phone: +33 (0)1 45 68 03 18
E-mail: ioc.secretariat@unesco.org

IOC Circular Letter No 3041
(Available in English only)

IOC/BA/SKT/ng
23 May 2025

To : ICG/IOTWMS Tsunami National Contacts

C.c. : Official National Coordinating Bodies for liaison with the IOC
Permanent Delegates/Observer Missions to UNESCO, and
National Commissions for UNESCO in ICG/IOTWMS Member States
UNESCO Offices in Doha, Islamabad, Jakarta, New Delhi and Tehran
IOC Officers
ICG/IOTWMS Working Group Chairs and Vice-Chairs
ICG/IOTWMS Task Team IOWave25
ICG/IOTWMS Tsunami Warning Focal Points
ICG/IOTWMS National Tsunami Warning Centres

**Subject: Announcement of the Indian Ocean Tsunami Exercise (IOWave25)
on 25 September, 15 October, 25 October and 5 November 2025**

The IOC Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS) at its 14th session (Banten, Indonesia, 17–19 November 2024, decided to organise an Indian Ocean Wave Exercise in 2025 (IOWave25) and established a Task Team to plan and conduct the exercise. At its most recent intersessional meeting, held online on 30 April, and after consultation with key stakeholders, the Task Team IOWave25 decided to conduct IOWave25 with four different scenarios on 25 September, 15 October, 25 October and 5 November 2025. The four scenarios will allow individual Member States to decide the type and number of exercise scenarios to participate in. This letter provides background information and details of the IOWave25 in which all ICG/IOTWMS Member States are encouraged to participate.

To date, seven IOWave exercises have been conducted (2009, 2011, 2014, 2016, 2019, 2020 and 2023). The exercises have been designed to test the receipt and dissemination of tsunami notifications along national tsunami warning chains, as well as test appropriate responses aligned with pre-established Standard Operating Procedures (SOPs). Throughout the IOWave Exercises, the engagement of coastal communities in tsunami education campaigns, preparedness measures, and evacuation drills has grown. Moreover, awareness and adoption of the UNESCO-IOC Tsunami Ready Recognition Programme (TRRP) has increased.

Chairperson	Vice-Chairpersons	Executive Secretary
Yutaka MICHIDA, Prof. Special Presidential Envoy for UN Ocean Decade The University of Tokyo (Atmosphere and Ocean Research Institute) Kashiwanoha 5-1-5 277-8504 Kashiwa JAPAN	Dr Marie-Alexandrine SICRE Directrice de Recherche Centre national de la recherche scientifique (CNRS) 3 rue Michel Ange 75016 Paris FRANCE Dr Nikolay VALCHEV Director Institute of Oceanology Bulgarian Academy of Sciences 40 Parnik May Str. 9000 Varna BULGARIA	Mr Juan Camilo FORERO HAUZEUR Executive Secretary Colombian Ocean Commission (COC) Avenida Ciudad de Cali No. 51 – 06 Edificio INEC, Oficina 306 111071 Bogotá, D.C. COLOMBIA Prof. Amr Zakaria HAMOUDA President of Marine Hazards Mitigation Center (MIMC) National Institute of Oceanography and Fisheries (NOF) Qalibay, Al-Arish Alexandria EGYPT

THANK YOU