

**Sub-regional Working Group  
North-West Indian Ocean**

## **1. Terms-of-Reference**

Liaise with other working group(s) and task team(s) within the ICG/IOTWMS and with working groups from the other ocean basins through the TOWS-WG to:

1. Evaluate capabilities and ascertain capacity building requirements of Member States in the region for providing end-to-end tsunami warning and mitigation services within the framework of the ICG/IOTWMS and within a multi-hazard framework.
2. Facilitate cooperation in the establishment and upgrading of seismic, sea level and GNSS stations and networks and communication systems in the region.
3. Facilitate the capacity building and the sharing of the tsunami-related data and information in the region.
4. Establish and maintain procedures for National Tsunami Warning Centres (NTWCs) across the region to exchange information on national tsunami warnings, observations, and impacts during events.
5. Support the WG3 effort to implement the Tsunami Ready Recognition Program in the region.

## **2. Membership**

The Sub-regional Working Group for the North-West Indian Ocean is composed of members representing National Tsunami Warning Centres and Tsunami Ready Focal Points from each of the Member States of India, Iran, Oman, Pakistan, United Arab Emirates, and Yemen in the North-West Indian Ocean region and invited experts.

- **Chair:** Ms V Sunanda Manneela (India), [sunanda@incois.gov.in](mailto:sunanda@incois.gov.in)
- **Vice-Chair:** Mr Nasser Al Ismaili (Oman NTWC), [Nasser.Ismaili@caa.gov.om](mailto:Nasser.Ismaili@caa.gov.om)

### **Members**

- Mr M Nagaraja Kumar (India NTWC), [raja@incois.gov.in](mailto:raja@incois.gov.in)
- Dr Mortaza Tavakoli (Iran NTWC), [inioas@inio.ac.ir](mailto:inioas@inio.ac.ir)
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- Mr Ali Almehrzzi (UAE TRFP), [ali.almehrzzi@moi.gov.ae](mailto:ali.almehrzzi@moi.gov.ae)
- Mr Abdullah Alymmahi (UAE TRFP), [a\\_alyammahi@moi.gov.ae](mailto:a_alyammahi@moi.gov.ae)

### **Invited Experts**

- Mr Zaidi Zainal Abidin (Malaysia), zaidi@met.gov.my
- Mr Mahendra S Ranganahalli (India WG1), mahendra@incois.gov.in
- Dr Ch Patanjali Kumar (India WG1), patanjali@incois.gov.in
- Mr Padmanabham Jijavarapu (India WG2), padmanabham@incois.gov.in
- Dr Sudheer Joseph (India TT-NET), sjo@incois.gov.in
- Mr Ajay Kumar Bandela (India TT-IOWave), ajay@incois.gov.in
- Dr Ali Khoshkholgh (Iran WG3), a\_khosh@inio.ac.ir
- Mr Abdullah Alkhadouri (Oman TT-NET); a.alkhadouri@caa.gov.om
- Mr Luqman Al Zadjali (Oman WG1), lazadjali14@gmail.com
- Ms Moza Al Marhoobi (Oman WG2), moza.almarhoobi@caa.gov.om
- Mr Abdullah Al Busafi (Oman TT-IOWave), Abdullah.Albusafi@caa.gov.om
- Mr Anjum Nazir Zaigham (Pakistan WG2), anzaighum@gmail.com
- Mr Hadif Alshehhi (UAE WG1, TT-IOWave), ps.gdco@moi.gov.ae
- Ms Hissa Alblooshi (UAE WG1), HSBLooshi@ncema.gov.ae
- Mr Badr Alameri (UAE WG2, TT-IOWave), balameri@ncm.gov.ae
- Ms Shamma Alneyadi (UAE WG2, TT-IOWave), salneyadi@ncm.gov.ae
- Mr Saeed Alqemzi (UAE WG3), saqemzi@ncema.gov.ae
- Mr Hilal Alkaabi (UAE, TT-IOWave), hskaabi@ncema.gov.ae
- Andrey Babeyko (Germany), babeyko@gfz-potsdam.de
- Mohammad Mokhtari (Iran), m\_7\_mokhtari@yahoo.com
- Temily Baker (ESCAP), temily.baker@un.org
- Ardito Kodijat (IOTIC), a.kodijat@unesco.org

### **3. Actions from ICG/IOTWMS-XIV**

Banten, Indonesia, 17-19 November 2024

**ICG-XIV/WG-NWIO(i)** Progress data sharing amongst the North-West Indian Ocean countries, and with the TSPs.

**ICG-XIV/WG-NWIO(ii)** Formulate a regional Paleo-tsunami study proposal for possible funding and contribution to the UN Ocean Decade Tsunami Programme.

**ICG-XIV/WG-NWIO(iii)** Extend the inundation and evacuation maps, as developed for the pilot areas under the UNESCAP project, to the other areas of NWIO region in line with the results of the hazard assessments towards implementation of the UNESCO-IOC Tsunami Ready Recognition Programme.

**ICG-XIV/WG-NWIO(iv)** Facilitate on-the-job training for National Tsunami Warning Centre representatives.

## **Actions from ICG/IOTWMS Steering Group-XIX**

Jakarta, Indonesia, 17-19 June 2025

*SG-XIX/WG-NWIO(i) Pursue discussions on real-time seismic and sea level data sharing in the Northwest Indian Ocean region engaging the relevant stakeholders in the region and the TSP representatives.*

### **4. Rules and Conditions**

The following rules and conditions apply to all working groups and Task Teams of the Intergovernmental Coordination Group of the Indian Ocean Tsunami Warning & Mitigation System (ICG/IOTWMS):

- Working language: English
- Frequency of meetings: During inter-sessional period of the ICG/IOTWMS
- Coordination and elections: Following the rules of procedures applying to IOC subsidiary bodies, unless elected by the ICG/IOTWMS, a chair and at least one vice-chair will be elected by the members of the working group or task team for two years with possible re-election of one term in the same position
- Members and appointment: Nominated by Heads of ICG/IOTWMS National Delegations and/or Tsunami National Contacts of Member States in accordance with the rules of procedures applying to IOC subsidiary bodies. Technical experts and observers can be invited at the discretion of the chair
- Duration of the working group and task teams: Two years, renewable subject to review by the ICG/IOTWMS
- Programme of inter-sessional work is guided by its Terms-of-Reference decided by the ICG/IOTWMS and actions requested by the ICG/IOTWMS
- Inter-sessional work is generally conducted by email and teleconference, in addition to at least one face-to-face meeting subject to availability of members and budget
- Reports: A progress report must be submitted to the Secretariat two months before each ICG session and within two months of each working group or task team meeting with the assistance of the Secretariat.
- Financial resources: Participation in the working groups and task teams, including attendance at meetings, will be at national expense.

### **5. Reference Documents**

Summary Report of the Fifty-seventh session of the IOC Executive Council, Paris, France, 25-26 June 2024: <https://oceanexpert.org/document/34751>

Summary Statement from 2<sup>nd</sup> UNESCO-IOC Global Tsunami Symposium, Banda Aceh, Indonesia, 11-14 November 2024: <https://oceanexpert.org/document/35594>

Summary Report of the Seventeenth Meeting of the Working Group on Tsunamis and Other Hazards related to Sea Level Warning and Mitigation Systems (TOWS-WG-XVII) Sendai, Japan, 22–23 February 2024: <https://oceanexpert.org/document/34558>

Decisions of the 14<sup>th</sup> Session of the ICG/IOTWMS, Banten, Indonesia, 17-19 November 2024:  
<https://oceanexpert.org/document/35572>

ICG/IOTWMS WG-NWIO Meeting Report, 22 July 2024:  
<https://oceanexpert.org/document/35118>

ICG/IOTWMS Steering Group Meeting Report, 5-6 February 2024:  
<https://oceanexpert.org/document/34628>

2024 Capacity Assessment of Tsunami Preparedness in the Indian Ocean:  
<https://oceanexpert.org/document/35564>

Exercise Indian Ocean Wave 23 (IOWave23) Report: <https://oceanexpert.org/document/35232>