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Commission

**6th SESSION
GROUP OF EXPERTS ON
CAPACITY DEVELOPMENT
(GE-CD-VI)**

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Guides for Inputs

(Please cover the following in your 10-minute presentation)



Within the framework of the IOC Capacity Development Strategy 2023-2030, please provide your inputs vis-a-vis the respective outputs in the CD Strategy:

1. What are the related **actions undertaken by your global programme** in support of the implementation of the IOC CD Strategy (**green** text) in general?
2. What are **lacking actions** (in **red** text)?
3. What specific **support** does **your global programmes provide** to help address the respective regional CD needs and requirements (e.g. IOCAFRICA, IOCARIBE, WESTPAC, IOCINDIO)?
4. What potential **areas of collaboration** with what specific partner organizations/funding organizations can be made through your respective global programs to contribute to the specific CD needs and requirements in the IOC regions?

IOC CD Strategy Outputs and Activities



Output	Activity	Action	Relevant Programmes/Actions Taken	
1. Human resources developed at individual and institutional levels	1.1 Academic and higher education	1.1.1 Promote and assist with the strengthening and establishment of consortia of higher education and research institutions at the appropriate geographical scale		
		1.1.2 Promote collaboration between UNESCO Chairs and IOC, and between IOC and other organisations dealing with ocean matters on human resources development	Plans to work with CTBTO 2025 ->	
	1.2 Continuous professional development	1.2.1 Promote and assist with the organisation of training courses, workshops and “summer schools”, relevant to the IOC mandate, including training of trainers/technicians and executive career development for institutional managers/decision makers, in collaboration with other organisations		UNESCO-IOC Training: OTGA UNESCO-IOC Tsunami Awareness (Jul 2024) OTGA UNESCO-IOC Tsunami Ready (Nov 2024) OTGA UNESCO-IOC Tsunami Warning Center Minimum Staff Competencies (Pacific, 2026) Regional Tsunami Ready Training (Indian Ocean, Pacific, Jan 2023, Feb 2025, NEAMTWS Jan 2025) Regional Tsunami Evacuation Maps, Plans, and Procedures (Pacific, 2019; IO Feb 2025) ITIC Training Programme on Tsunami Early Warning Systems (Hawaii 2023, Chile 2024) – altogether 30 countries, 49 participants Pacific, Caribbean, IO Tsunami Response Workshop for Businesses: preparing hotels and businesses for the next tsunami (course manual 2013, updated 2024)
			1.2.2 Establish, or collaborate with other organisations to develop internship/fellowship and on-board training programmes	IOC Ocean Training Internship - 2 persons (Indonesia, Tonga) to ITIC Oct-Dec 2024
			1.2.3 Establish and collaborate with other organisations on visiting lecturer/scholar/researcher programmes and professional exchanges (peer to peer)	Hands-on professional internships to South China Sea Tsunami Advisory Centre (SCSTAC) – small cohorts of 4-5 national officers from NTWC-SCS region to shadow duty watchstanders (regular since 2018)
			1.2.4 Promote and assist with the establishment of regional training (and research) centres relevant to the IOC mandate	OTGA Specialized Training Center for Tsunamis (STC) - ITIC
			1.2.5 Promote the development and sharing of training materials and tools	IOC Manual and Guides / Technical Series guidelines and handbooks. Tsunami Warning Decision Support Tools available to organizations responsible for tsunamis (inundation modelling tools (ComMIT, TUNAMI, HySea, Comcot, NEOWAVE, etc), tsunami travel time calculation (TTT), earthquake and sea level monitoring (CISN, IOC SLMF, Tide Tool), Tsunami Coastal Assessment Tool (TsuCAT)
	1.3 Sharing of knowledge and expertise including through community building	1.3.1 Establish a travel grant “fund”		
			1.3.2 Establish or collaborate with other organisations on a mentoring programme	
			1.3.3 Promote and assist with the development and strengthening of IOC alumni networks, and professional networks including for youth leaders	
			1.3.4 Promote funding, grant and scholarship programs to facilitate ocean research, technical development and scientific exchange through bringing visibility of opportunities via an online CD hub	Joined IOC Ocean Training Internship

IOC CD Strategy Outputs and Activities



Output	Activity	Action	Relevant Programmes/Actions Taken
1. Human resources developed at individual and institutional levels	1.4 Integration of ocean science in basic education	1.4.1 Promote the integration of ocean science in curricula of primary and secondary schools	Indonesia and PICT schools (IOTIC and IOC TSR Fiji + UNDP) Pre-K to High School Earthquake and Tsunami Textbooks, with teacher's guides
		1.4.2 Promote careers in ocean research and ocean management	
	1.5 Improving gender, generational and geographic diversity	1.5.1 Promote participation of women in ocean research	
		1.5.2 Promote and support "young scientist" and "women in science" awards	
2. Access to technology, physical infrastructure, data and information established or improved	2.1 Facilitating access to technology and infrastructure	2.1.1 Establish and maintain a register of infrastructure to facilitate access, and promote transfer of marine technology	IOC TSR with Caribbean (CDEMA), Central America (CEPREDENAC), South America (CPPS), Pacific Islands (SPC, SPREP, UNDP), SE Asia (ASEAN), IO (UNESCAP, UNDP) – collaboration on training and workshops
		2.1.2 Promote the development of regional collaboration on sustainable scientific infrastructure	
		2.1.3 Promote involvement of citizen science in ocean research	
	2.2 Facilitating equitable access to and sharing of ocean data and information	2.2.1 Promote the development and wide use of regional and global data and information systems	IOC Sea Level Monitoring Facility for tsunami warning
		2.2.2 Promote the sharing of ocean data and information by stakeholders	Extensively and in the framework of the Global tsunami Warning and mitigation programme, specially in relation to Tsunami Service Providers (TSP)
3. Global, regional and sub-regional mechanisms strengthened	3.1 Further strengthening and supporting secretariats of regional sub-commissions	3.1.1 Improve staffing of secretariat of regional sub-commissions	
		3.1.2 Reinforce budgeting of regional sub-commissions	
	3.2 Enhancing effective communication between regional sub-commission secretariats and global programmes as well as other communities of practice (incl. other organisations)	3.2.1 Establish an effective coordination and communication mechanism between the secretariats of the regional sub-commissions and the global programmes	Regional Tsunami Information Centers (ITIC, CTIC, IOTIC, NEAMTIC) serve as liaison working directly and supporting country needs, including capacity building. UNOD Tsunami Programme 100% at-risk tsunami communities prepared and resilient facilitated by TICs



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IOC CD Strategy Outputs and Activities

Output	Activity	Action	Relevant Programmes/Actions Taken
3. Global, regional and sub-regional mechanisms strengthened	3.3 Identifying specific national and regional capacity development needs through regular needs assessment	3.3.1 Organise and conduct biennial capacity development needs survey	IO: 2005, 2018, 2024 Tsunami Preparedness Capacity Assessment PTWS: 2025 Tsunami Preparedness Capacity Assessment
	3.4 Encouraging regional and sub-regional organisations to be leaders in, and amplifiers of capacity development	3.4.1 Reinforce engagement of regional and sub-regional organisations in consultation process and capacity development initiatives	See 2.1.2 Promote the development of regional collaboration on sustainable scientific infrastructure
4. Development of ocean research policies in support of sustainable development objectives promoted	4.1 Fostering the development of ocean research policies	4.1.1 Compile and compare information on existing ocean research policies, and disseminate to Member States for their use	
		4.1.2 Assist and enable Member States with the development of ocean research policies, making use of the results of 4.1.1	
5. Visibility, awareness and understanding on the roles and values of the ocean and ocean research in relation to human wellbeing and sustainable development increased	5.1 Fostering the development of ocean related public information and communication services	5.1.1 Encourage the development of public information (communication) departments in ocean research institutions	
	5.2 Fostering the development of ocean literacy	5.2.1 Assist with the strengthening and development of ocean literacy programmes at national and regional levels	UNESCO UNITWIN (IOTIC)
6. Sustained resource mobilization reinforced	6.1 Enhancing sustained support (in-kind and financial) to the IOC for its international coordination role	6.1.1 Foster partnerships to increase in-kind support opportunities	IOC MOUs with BOM (Australia), BMKG (Indonesia), CTBTO, Government of Barbados (CZMU, DEM) and NOAA (United States)
	6.2 Promoting sustained bilateral and multilateral support among Member States	6.2.1 Encourage resource mobilisation in particular from Member States, and other donors to support the outcomes of the IOC Capacity Development needs assessment	European Union (DG ECHO), JICA, MOFA (Japan), UNESCAP, World Bank for IOTWMS and PTWS Capacity Assessment.

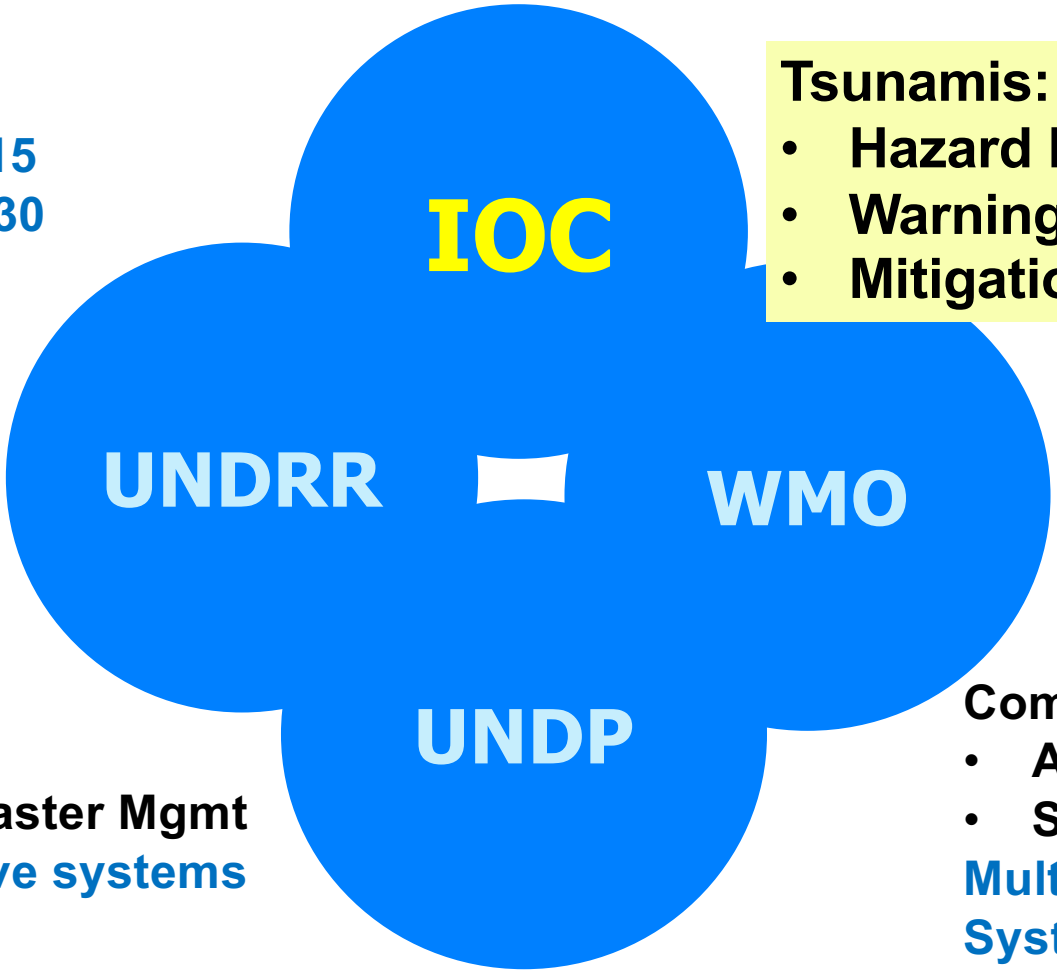
UN – Global Partnerships

DRR platforms

- Hyogo 2005-2015
- Sendai 2015-2030

Awareness

- DRR Oct 13
- WTAD Nov 5



Tsunamis:

- Hazard Risk
- Warning guidance
- Mitigation, Preparedness

**Disaster Mgmt
Institutional / Legislative systems**

Communication (GTS)

- Alerts
- Sea Level Data

Multi-hazard Early Warning Systems (MHEWS)

IOC Tsunami Information Centres

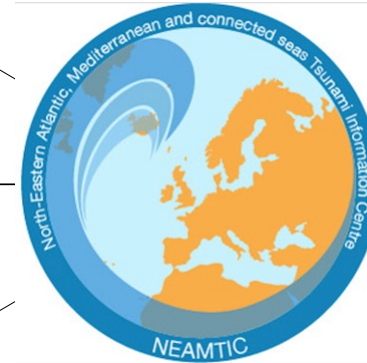
PTWS
USA NOAA – IOC Partnership
1965
Chili SHOA Associate Director
1998



NEAMTWS
EC DG ECHO
France, Greece, Italy, Portugal
2011-13



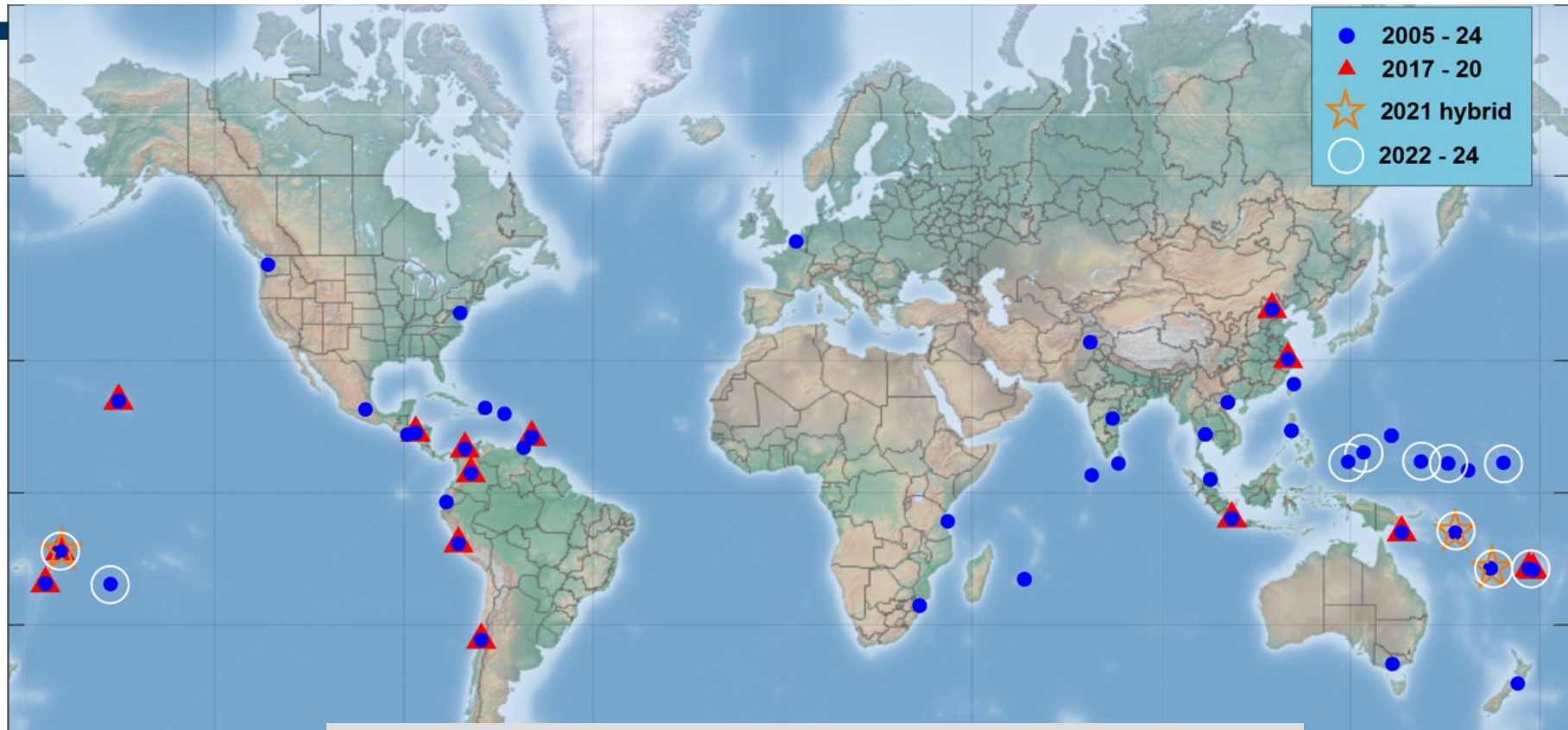
IOTWS
Indonesia – IOC Partnership 2012
(formerly JTIC since 2006)



CARIBE-EWS
Barbados– IOC Partnership
2015 (approved 2007)

ITIC - IOC TSUNAMI CAPACITY BUILDING (2005-2025, > 160 trainings)

Pacific (56%), Indian Ocean (20%), Caribbean (7%), NEAMTWS (1%). US domestic (16%)



Courses

- Awareness (1 day)
- Tsunami Early Warning Systems (2 wk)
- TWC & TER Standard Operating Procedures (1wk)
- Tsunami Evacuation Maps, Plans, Procedures (TEMPP) (5 1-wk)

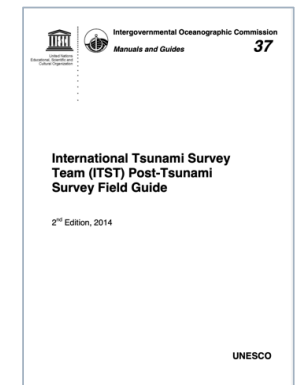
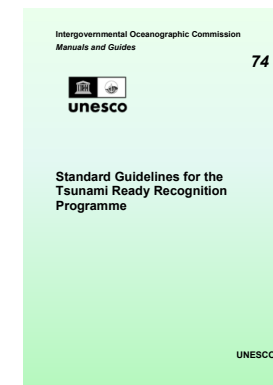
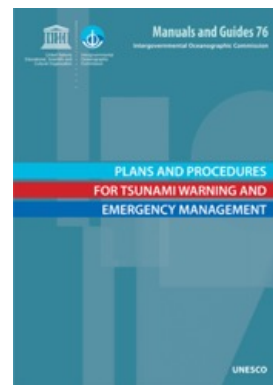
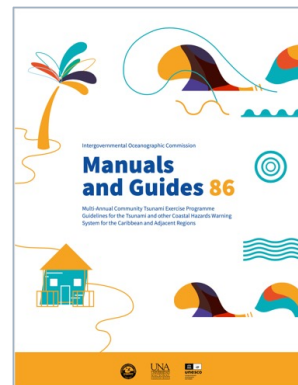
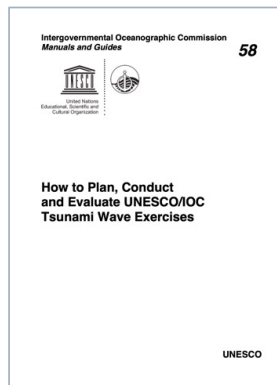
5000 km

2000 mi



IOC Manual and Guides, Technical Series – Capacity Development

1. **Tsunami Exercises (How to Plan, Conduct and Evaluate UNESCO/IOC Tsunami Wave Exercises TS 68, 2013; Multi-Annual Community Tsunami Exercise Programme, MG 86, 2021)**
2. **Plans and Procedures for Tsunami Warning and Emergency Management (MG 76, 2017)**
3. **Preparing for Community Tsunami Evacuations: From Inundation Evacuation Maps, Response Plans, and Exercises (MG 82, 2020)**
4. **Standard Guidelines for the Tsunami Ready Recognition Programme (MG 76, 2022)**
5. **International Tsunami Survey Team (ITST) Post-Tsunami Survey Field Guide (MG 37, 1998, rev 2014)**



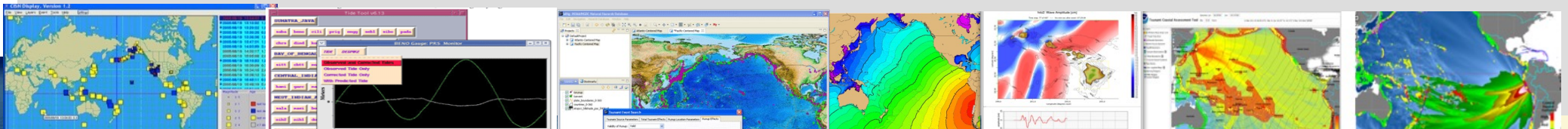


Tsunami Warning Decision Support Tools

ITIC-distributed, supported



- ❑ **Tsunami Bull Board Listserv (ITIC, 1995)** 464 science/tsu/govt, no media (Aug 2024)
Sharing of tsunami-related Information (science, research, events, policy, mitigation, preparedness)
email addr for posting: tsunami_bb@list.woc.noaa.gov
- ❑ **Real time EQ Display (CISN, USGS / NTHMP, 2005), 350+ v3.13.227** (Aug 2024)
No PTWC EQ Observatory message. Registration code no longer required so cannot track nbr users
- ❑ **Real-time Sea Level monitoring**
 - Tide Tool – TWC operations monitoring (PTWC, 2005) – decode, display, pick, v10.71
 - IOC Sea Level Monitoring web site (IOC, 2008)
- ❑ **Tsunami Travel Time Software (ITIC, NGDC, 2007) – SDK4.0.1, with GUI for PC**
- ❑ **Tsunami Historical Database Online (WDS-NCEI), Offline (TsuDig, NCEI, ITIC, 2009)**
- ❑ **Tsunami Hazard Assessment Tools (2017) – PMEL, ITIC**
 - ❑ ComMIT/MOST inundation modeling => **OTGA TEMPP hybrid 2026**
 - ❑ **Tsunami Coastal Assessment Tool (TsuCAT v4.4, Aug 2024) => PTWC messages from multiple countries, with community exercise injects, near-real time USGS earthquake ingest**



OceanTeacher Global Academy

Delivering IOC Capacity
Development

1. Tsunami Awareness (Jun 2024)
2. Tsunami Ready (Nov 2024)
3. TWC Minimum Staff
Competencies (Q4 2025)



Dr. Laura Kong

Director

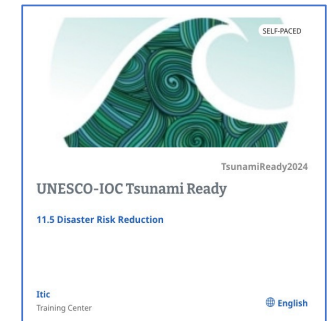
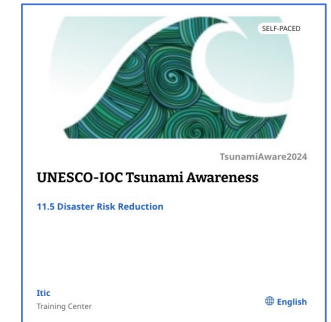
International Tsunami Information Centre



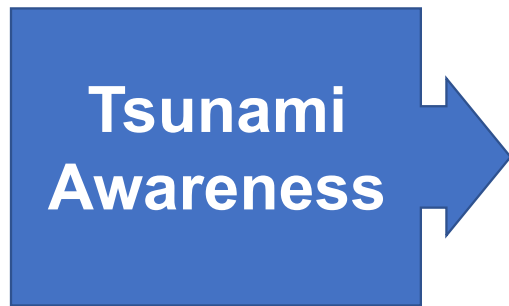
UNESCO-IOC Tsunami Training Courses



- ITIC STC courses collaborative IOC TSR
- Course names start with UNESCO-IOC xxx
- **Self-paced, independent, no trainer interaction**
 1. **Tsunami Awareness** (avail since 25 June 2024)
 2. **Tsunami Ready** (soon, November 2024)
- Hybrid and/or In-person
 1. Tsunami Warning Center Operations (SOPs) – Minimum Staff Competencies. (2025)
 2. Tsunami Early Warning Systems (TEWS)
 3. Tsunami Evacuation Maps, Plans, and Procedures (TEMPP)



- OTGA Tsunami Awareness certificate required for OTGA Tsunami Ready



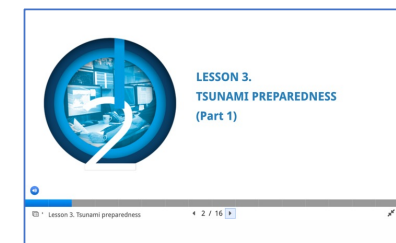
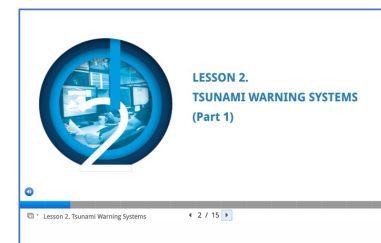
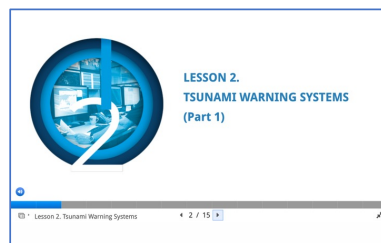
Pre-Quiz

Lesson 1: Tsunami Basics (Parts 1 and 2)

Lesson 2: Tsunami Warning Systems (Parts 1 and 2)

Lesson 3: Tsunami Preparedness (Parts 1 and 2)

Post-Test



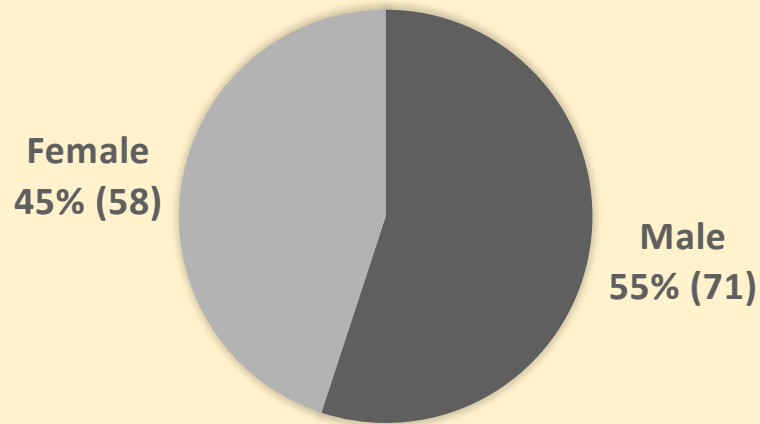
- 2 parts (18, 23 Slides)
- 2 parts (14, 18 Slides)
- 2 parts (15, 23 Slides)
- All Lessons have Activities, Knowledge review checks, Narration



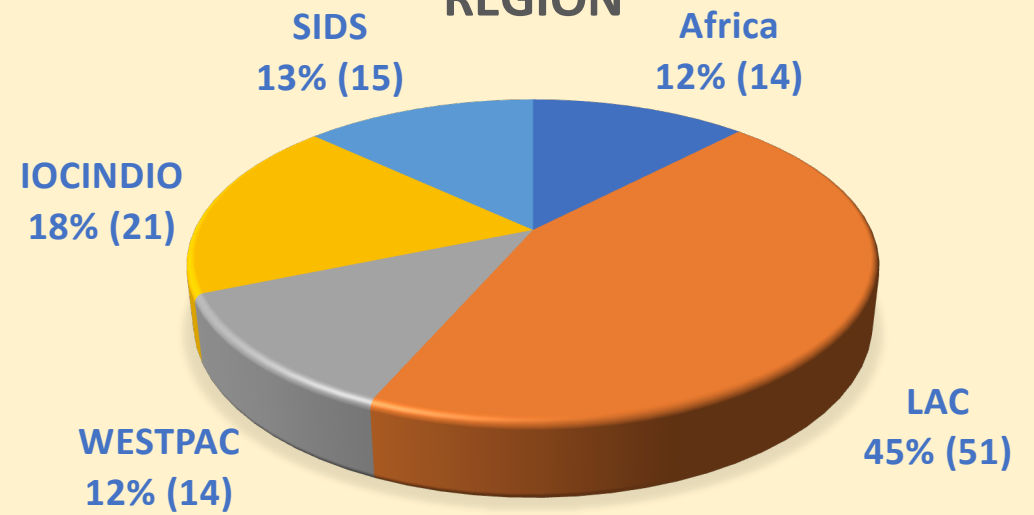
OTGA Tsunami Awareness – Students

(through 14 Oct 2024)

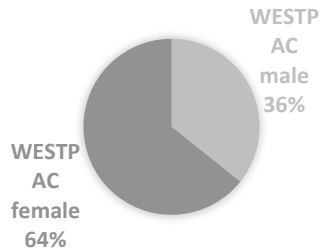
GENDER



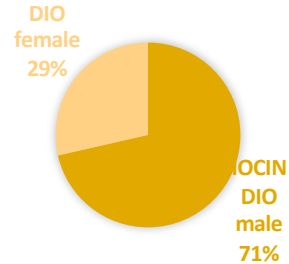
REGION



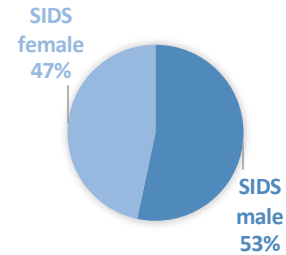
WESTPAC



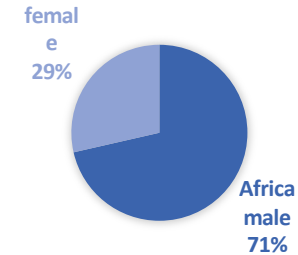
IOCINDIO



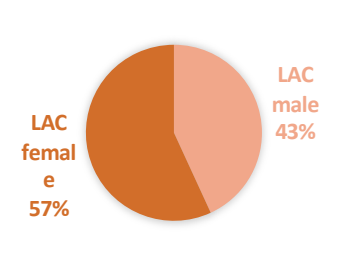
SIDS



AFRICA



LAC





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THANK YOU