



IOTIC- BMKG Indian Ocean Capacity Building (IO-CAP) 2025

Training Workshop on Tsunami Evacuation Maps, Plans, and Procedures and the UNESCO-IOC Tsunami Ready Recognition Programme for Indian Ocean Member States

15-23 April 2025

*UNESCO Category2Centre, International Training Centre for Operational Oceanography (ITCOOcean),
Indian National Centre for Ocean Information Services (INCOIS),
Hyderabad, India*

	Paralel Sessions			Joint Session						
Monday 14 April 25	Day 1 Tuesday 15 April 25	Day 2 Wednesday 16 April 25	Day 3 Thursday 17 April 25	Day 4 Friday 18 April 25	Day 5 Saturday 19 April 25	Day 6 Sunday 20 April 25	Day 7 Monday 21 April 25	Day 8 Tuesday 22 April 25	Day 9 Wednesday 23 April 25	Thursday 24 April 25
Arrival of Participants	Join Opening	TIMM Day 2)	TIMM (Day 3)	TIMM-TEMPP (Day 4) Joint TIMM and TRRP	TIMM-TEMPP (Day 5) Joint TIMM and TRRP	Free Day	TEMPP (Day 6) Joint TIMM and TRRP	TEMPP (Day 7) Joint TIMM and TRRP	TEMPP (Day 8) Joint TIMM and TRRP	Departure of Participants
	TIMM (Day 1)									
	1									
	TRRP (Day 1)	TRRP (Day 2)	TRRP (Day 3)							

TIMM: Tsunami Inundation Modeling and Mapping

TRRP: Tsunami Ready Recognition Programme

TEMPP; Tsunami Evacuation Map, Plans, and Procedures



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Time (min)	Start	End	OPENING SESSION TIMM - TRRP Participants	Speakers / Resource Person (Moderator)
Day 1: Tuesday, 15 April 2025				
Opening of TEMPP Training (Plenary)				
30	9:00	9:30	Registration for Opening	
5	9:30	9:35	Welcome to the opening session	Remarks Mrs Nora Gale
6	9:35	9:41	Welcoming Remarks by UNESCO Category2Centre, ITCOOcean	Remarks Dr. T V S Udaya Bhaskar
6	9:41	9:47	Welcoming Remarks of Representatives of UNESCAP	Remarks Mrs Temily Isabella Baker
7	9:47	9:54	Welcoming Remarks of Director and Representatives of UNESCO Delhi Office	Recorded Mr Timothy Curtis
6	9:54	10:00	Breifing on meeting logistics-INCOIS	Briefing Mr. Nagaraja Kumar M
30	10:00	10:30	O-1: Introduction to Indian Ocean Tsunami Warning and Mitigation System	Presentation Dr Srinivasa Kumar Tummala
10	10:30	10:40	Group Photo	Group Activity Moderator
30	10:40	11:10	COFFEE BREAK	
15	11:10	11:25	O-2: Introduction of the Training Plan	Presentation Mr Ardito M Kodijat
45	11:25	12:10	O-3: Introduction of Participants	Interactive Mr Ardito M Kodijat
20	12:10	12:30	O-4: Introduction to UNESCAP Project	Presentation Mrs Nora Gale
60	12:30	13:30	LUNCH BREAK	



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Time (min)	Start	End	Tentative Agenda TIMM Session		Speakers / Resource Person (Moderator)
Day 1: Tuesday, 15 April 2025					
Paralel Session: Tsunami Inundation Modeling					
30	13:30	14:00	Earthquake and Tsunami Hazards in Indian Ocean (Seismotectonics and other potential sources)	Presentations	Ajay Kumar B
35	14:00	14:35	Probabilistic vs Deterministic (Scenario based) Tsunami Hazard Assessment.	Presentations	Patanjali Kumar Ch
30	14:35	15:05	Non-Seismic Sources generated Tsunamis	Presentations	Patanjali Kumar Ch
20	15:05	15:25	Probabilistic Tsunami Hazard Assessment of the Indian Ocean Result of PTHA for NWIO (UNESCAP Project)	Presentations	
30	15:25	15:55	COFFEE BREAK		
45	15:55	16:40	Discussion and Update of National Tsunami Hazard Assessment <i>Participants to share information about their country's Tsunami Hazard Assessment</i>	Interactive	Moderator: Srinivasa Kumar Tummala
20	16:40	17:00	Preparation for Day 2	Interactive	
	17:00	17:00	End of Day 1		

Time (min)	Start	End	Tentative Agenda TIMM Session		Speakers / Resource Person (Moderator)
Day 2: Wednesday, 16 April 2025					
30	8:30	9:00	Registration for Opening		
30	9:00	9:30	Tsunami Science, Modelling and Forecasting - I Science and the use of Modelling for Mitigation	Presentations	Patanjali Kumar Ch
30	9:30	10:00	Tsunami Science, Modelling and Forecasting - II Summary of different models	Presentations	Suci Dewi Anugrah
30	10:00	10:30	COFFEE BREAK		
30	10:30	11:00	Inundation Mapping Modeling Requirements: Earthquake Tsunami Sources, Parameterization	Presentations	Patanjali Kumar Ch
30	11:00	11:30	Earthquake Tsunami Sources for the Indian Ocean - Far-field and Near-field Sources for ComMIT	Discussions	Srinivasa Kumar Tummala (Moderator)
60	11:30	12:30	Using ComMIT: Exercise 1 - Download and Install Using ComMIT : Exercise 1 Test model	Hands on Exercise	Patanjali Kumar Ch, Mahendra RS
60	12:30	13:30	LUNCH BREAK		
60	13:30	14:30	Inundation Mapping Modeling Requirements: Ocean Bathymetry and Land Topography Digital Elevation Models (DEMs), Best practices for constructing DEMs	Hands on Exercise	Patanjali Kumar Ch, Mahendra RS
90	14:30	16:00	TGV Seminar Online		
15	16:00	16:15	COFFEE BREAK		
40	16:15	16:55	Indian Ocean DEM Grids for ComMIT Using ComMIT Global DEM or User-supplied grids	Presentations	Patanjali Kumar Ch, Mahendra RS
60	16:55	17:55	Using ComMIT: Exercise 2 - Small Groups Hazard Assessment	Hands on Exercise	Patanjali Kumar Ch, Mahendra RS
5	17:55	18:00	Preparation for Day 3	Interactive	
	18:00	18:00	End of Day 2		

Time (min)	Start	End	Tentative Agenda TIMM Session		Speakers / Resource Person (Moderator)
Day 3: Thursday, 17 April 2025					
30	8:30	9:00	Registration for Opening		
30	9:00	9:30	Guidelines for Establishing Tsunami Inundation Areas for Regions Not-modeled or with Low-hazard	Presentations	Srinivasa Kumar Tummala
60	9:30	10:30	Using ComMIT - Interface for Tsunami Modeling: Features, Model Parameters, Output	Hands on Exercise	Suci Dewi Anugrah
30	10:30	11:00	COFFEE BREAK		
30	11:00	11:30	Optimizing ComMIT inundation runs - developing DEM grids, grid sizing, accuracy and robustness testing, instabilities, and model parameters	Presentations	Patanjali Kumar Ch, Mahendra RS
60	11:30	12:30	Using ComMIT: Exercise 3 - Stable Model Run with ComMIT or own bathymetry, compare with historical comparisons at gauge locations	Presentations, Hands on Exercise	Patanjali Kumar Ch, Mahendra RS
60	12:30	13:30	LUNCH BREAK		
30	13:30	14:00	Hazard Assessment Products and Hazard Assessment Report - Best Practices and Example	Presentations	Mahendra R S
30	14:00	14:30	Using ComMIT to Running Custom Propagation Sources	Presentations	Patanjali Kumar Ch
60	14:30	15:30	Using ComMIT: Exercise 4 - Running Custom Propagation Sources	Presentations, Hands on Exercise	Patanjali Kumar Ch, Mahendra RS
15	15:30	15:45	COFFEE BREAK		
60	15:45	16:45	Using ComMIT: Exercise 5 - Participant Hazard Assessment Study using Inundation Modeling (multiple runs, hours, afternoon + night + following day)	Hands on Exercise	Patanjali Kumar Ch, Mahendra RS
60	16:45	17:45	QGIS - Introduction, Installation, Brief Tutorial on how to use	Presentations, Hands-on	Mahendra R S, Shiva Kumar H, Gaurav K
	17:45	17:45	End of Day 3		



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Time (min)	Start	End	Tentative Agenda TRRP Session		Speakers / Resource Person (Moderator)
Day 1: Tuesday, 15 April 2025					
Paralel Session: Tsunami Ready Recognition Programme					
30	13:30	14:00	TRRP 00: TRRP Training Plan	Interactive	Ardito M Kodijat
20	14:00	14:20	TRRP 01: Introduction to Tsunami Ready Recognition Programme	Presentations	Ardito M Kodijat
20	14:20	14:40	TRRP 02: What is a community	Presentations	Suci Dewi Anugrah
30	14:40	15:10	TRRP A: Assessment Knowing your community for Tsunami Ready	Interactive	Moderator and Team
15	15:10	15:25	TRRP A: Sharing back Knowing your community for Tsunami Ready	Interactive	Moderator and Team
30	15:25	15:55	COFFEE BREAK		
20	15:55	16:15	Tsunami Ready Indicators: Assessment TRRP 03: Assessment 1: Tsunami Hazard Map	Presentations	Admiral Musa Julius
20	16:15	16:35	TRRP 04: Assessment 2: People at Risk	Presentations	Nora Gale
20	16:35	16:55	TRRP 05: Assessment 3: Resource and Capacity	Presentations	Alfath Abu Bakar
	16:55	16:55	End of Day 1		

Time (min)	Start	End	Tentative Agenda TRRP Session		Speakers / Resource Person (Moderator)
Day 2: Wednesday, 16 April 2025					
30	8:30	9:00	Registration		
30	9:00	9:30	TRRP B: Summary of Assessment Indicator: Quizzes	Interactive	Moderator and Team
30	9:30	10:00	TRRP C: Discuss Challenges and Solutions Assessment Indicators	Group work	Participants
30	10:00	10:30	TRRP C: Share Back Assessment Indicators Challenges and Solutions	Group work	Participants
20	10:30	10:50	COFFEE BREAK		
20	10:50	11:10	Tsunami Ready Indicators: Preparedness TRRP 06: Preparedness 1: Evacuation Map	Presentations	Nora Gale
20	11:10	11:30	TRRP 07: Preparedness 2: Public Information and Signages	Presentations	Alfath Abu Bakar
20	11:30	11:50	TRRP 08: Preparedness 3: Public Awareness and Education	Presentations	Admiral Musa Julius
20	11:50	12:10	TRRP 09: Preparedness 4: Outreach and Public Activities	Presentations	Alfath Abu Bakar
20	12:10	12:30	TRRP 10: Preparedness 5: Exercises	Presentations	Nora Gale
60	12:30	13:30	LUNCH BREAK		
60	13:30	14:30	TRRP D: Discuss Challenges and Solutions Preparedness Indicators	Group work	Participants
90	14:30	16:00	TGV Seminar Online		
15	16:00	16:15	COFFEE BREAK		
30	16:15	16:45	TRRP D: Share Back Preparedness Indicators Challenges and Solutions	Group work	Participants
20	16:45	17:05	Tsunami Ready Indicators: Response TRRP 11: Response 1: Tsunami Emergency Response SOP	Presentations	Ardito M Kodijat
20	17:05	17:25	TRRP 12: Response 2: Tsunami Emergency Response Capacity	Presentations	Admiral Musa Julius
20	17:25	17:45	TRRP 13: Response 3: Tsunami Early Warning (Receiving Warning)	Presentations	Nora Gale
20	17:45	18:05	TRRP 14: Response 4: Tsunami Early Warning (Dissemination)	Presentations	Alfath Abu Bakar
	18:05	18:05	End of Day 2		

Time (min)	Start	End	Tentative Agenda TRRP Session		Speakers / Resource Person (Moderator)
	Day 3: Thursday, 17 April 2025				
30	8:30	9:00	Registration for Opening		
45	9:00	9:45	TRRP E: Discuss Challenges and Solutions Response Indicators	Group work	Participants
45	9:45	10:30	TRRP E: Share Back Response Indicators Challenges and Solutions	Group work	Participants
30	10:30	11:00	COFFEE BREAK		
45	11:00	11:45	TRRP F: Summary of Preparedness and Response Indicator: Quizzes	Interactive	Moderator and Team
20	11:45	12:05	TRRP 15: The National Tsunami Ready Board (NTRB)	Presentations	Suci Dewi Anugrah
25	12:05	12:30	TRRP G: Discuss Challenges and Solutions on NTRB Establishment	Group work	Participants
60	12:30	13:30	LUNCH BREAK		
30	13:30	14:00	TRRP G: Share Back NTRB Challenges and Solutions	Group work	Participants
20	14:00	14:20	TRRP 16: Tsunami Ready Workflow and Procedures	Presentations	Ardito M Kodijat
20	14:20	14:40	TRRP 17: Tsunami Ready Toolkits	Presentations	Ardito M Kodijat
30	14:40	15:10	TRRP 18: Lessons Learnt from India on Capacity Building for Tsunami Ready Community	Presentations	Vijaya Sunanda Maneela
30	15:10	15:40	TRRP 19: Lessons Learnt from Indonesia on Capacity Building for Tsunami Ready Community	Presentations	Suci Dewi Anugrah
30	15:40	16:10	COFFEE BREAK		
30	16:10	16:40	TRRP H: Tsunami Ready Implementation Plan - Support Matrix	Group work	Participants
30	16:40	17:10	TRRP I: Tsunami Ready Implementation Plan - Next Step	Group work	Participants
	17:10	17:10	End of Day 3		



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Time (min)	Start	End	TEMPP Agenda Joint Sessions TIMM - TEP	Speakers / Resource Person (Moderator)
Day 4: Friday, 18 April 2025				
Tsunami Inundation Map				
30	8:30	9:00	Registration	
30	9:00	9:30	TEMPP 01: Introduction to Join session TIMM-TEMPP	Presentations Ardito M Kodijat
75	9:30	10:45	Exercise 5 - Participant Hazard Assessment Study using Inundation Modeling (continued) - Concurrent session: QGIS installation troubleshooting and Q&A	Hands on Exercise Mahendra R S, Shiva Kumar H, Gaurav K
30	10:45	11:15	COFFEE BREAK	
75	11:15	12:30	Exercise 5 - Participant Hazard Assessment Study using Inundation Modeling (continued) - Concurrent session: QGIS installation troubleshooting and Q&A	Hands on Exercise Mahendra R S, Shiva Kumar H, Gaurav K
90	12:30	14:00	LUNCH BREAK - FRIDAY PRAYER	
30	14:00	14:30	Tsunami Inundation and Hazard - Creating Inundation Map for Evacuation Planning	Presentation Mahendra R S
90	14:30	16:00	Exercise 6: Creating Composite Inundation Map	Hands on Exercise Mahendra R S, Shiva Kumar H, Gaurav K
45	16:00	16:45	Finalizing Inundation Map - Guidelines for Map Publication (Standard Symbolology, Color, Legend, etc) and official endorsement - Best Practices and Example	Presentation Mahendra R S
15	16:45	17:00	COFFEE BREAK	
45	17:00	17:45	Report Preparation Time: Participant Hazard Assessment Study using Inundation Modeling - <u>excluding</u> Final Inundation Map	Report Preparation Srinivasa Kumar Tummala (Moderator)
45	17:45	18:30	Visit to Ocean Observation Lab and HPC TARANG - ITCOO	Lab Visit Aneesh L, Annapurnaiah K
10	18:30	18:40	End of Day 4	

Time (min)	Start	End	TEMPP Agenda Joint Sessions TIMM - TEP		Tentative Resource Person
Day 5: Saturday, 19 April 2025					
30	8:30	9:00	Registration		
30	9:00	9:30	Finalizing Inundation Map using GIS Software - Importing ComMIT products into QGIS	Presentations	Mahendra R S
60	9:30	10:30	Exercise 7: Importing Inundation and Maximum Wave Amplitures into QGIS for inundation map and evacuation planning	Presentations	Mahendra R S
30	10:30	11:00	COFFEE BREAK		
30	11:00	11:30	Exercise 7: Importing Inundation and Maximum Wave Amplitures into QGIS for inundation map and evacuation planning	Hands on Exercise	Mahendra R S, Shiva Kumar H, Gaurav K
60	11:30	12:30	Exercise 8: Refining and finalizing Inundation Map	Hands on Exercise	Mahendra R S, Shiva Kumar H, Gaurav K
60	12:30	13:30	LUNCH BREAK		
120	13:30	15:30	Country Presentation - Final Inundation Map	Hands on Exercise	Mahendra R S, Shiva Kumar H, Gaurav K
30	15:30	16:00	COFFEE BREAK		
45	16:00	16:45	Discussion and Wrap up on TIMM for Evacuation	Discussions	
60	16:45	17:45	Back to Room		
75	17:45	19:00	Visit TSP INDIA / SYNOPS Lab	Lab Visit	Nagaraja Kumar M, Ajay Kumar B
30	19:00	19:30	transfer to Dinner Place		
120	19:30	21:30	Dinner hosted by INCOIS		
	21:30		End of Day 5		

Time (min)	Start	End	TEMPP Agenda Joint Sessions TIMM - TEP		Speakers / Resource Person (Moderator)
Day 6: Monday, 21 April 2025					
Session: Tsunami Evacuation Mapping, Plans, and Procesures					
30	8:30	9:00	Registration		
20	9:00	9:20	TEMPP 02: Key issues for Tsunami Evacuation	Presentation	Ardito M Kodijat
25	9:20	9:45	TEMPP 03: Principles in Tsunami Evacuation Planning: Planning Cycle	Presentation	Naghma Firdaus
10	9:45	9:55	Group work Assigment: Tsunami Evacuation Developemtn Workplan		Facilitator Team
45	9:55	10:40	TEMPP A Discussion: Tsunami Evacuation Planning Preparation	Group work	Participants
30	10:40	11:10	COFFEE BREAK		
55	11:10	12:05	TEMPP A Share back: Tsunami Evacuation Planning Preparation	Group work	Participants
15	12:05	12:20	TEMPP 04: B Principles in Finalizing Tsunami Hazard Map	Presentation	Nora Gale
10	12:20	12:30	Group work Assigment: Identifying Tsunami Evacuation Zone (Module 1)		Facilitator Team
60	12:30	13:30	LUNCH BREAK		
90	13:30	15:00	TEMPP B Discussion: Information for Tsunami Evacuation Plan and Reviewing Designated Hazard and Inundation Map	Group work	Participants
30	15:00	15:30	COFFEE BREAK		
90	15:30	17:00	TEMPP B Share back: Information for Tsunami Evacuation Plan and Reviewing Designated Hazard and Inundation Map	Group work	Participants
10	17:00	17:10	End of Day 7		

Time (min)	Start	End	TEMPP Agenda Joint Sessions TIMM - TEP		Tentative Resource Person
Day 7: Tuesday, 22 April 2025					
30	8:30	9:00	Registration		
15	9:00	9:15	TEMPP 05: C Principles in Tsunami Evacuation Strategy	Presentation	Suci Dewi Anugrah
15	9:15	9:30	TEMPP 06: C Principles in Tsunami Evacuation Place	Presentation	Admiral Musa Julius
20	9:30	9:50	TEMPP 07: C Principles in Tsunami Evacuation Routes	Presentation	Vijaya Sunanda Maneela
20	9:50	10:10	TEMPP 08: C Principles in Tsunami Evacuation Signs	Presentation	Alfath Abu Bakar
30	10:10	10:40	COFFEE BREAK		
20	10:40	11:00	TEMPP 09: C Principles in Finalizing Tsunami Evacuation Maps	Presentation	Mehdi Masoodi
10	11:00	11:10	Group work Assigment: Developing Tsunami Evacuation Maps (Module 2)		Facilitator Team
80	11:10	12:30	TEMPP C1 Discussion: Evacuation Strategy	Group work	Participants
60	12:30	13:30	LUNCH BREAK		
15	13:30	13:45	TEMPP 10: C Introduction to Warning Chain	Presentation	Srinivasa Kumar Tummala
15	13:45	14:00	TEMPP 11: C Principles in Tsunami Evacuation Procedures: SOP	Presentation	Ghazala Naeem
15	14:00	14:15	TEMPP 12: C Principles in Tsunami Response Plan	Presentation	Ardito M Kodijat
10	14:15	14:25	Group work Assigment: Developing Tsunami Response Plan & SOP (Module 3)		Facilitator Team
45	14:25	15:10	TEMPP C2 Discussion: Drafting Tsunami Emergency Response Plan	Group work	Participants
30	15:10	15:40	COFFEE BREAK		
45	15:40	16:25	TEMPP C2 Discussion: Drafting Tsunami Emergency Response Plan	Group work	Participants
90	16:25	17:55	TEMPP C2 Share back: Drafting Tsunami Emergency Response Plan	Group work	Participants
5	17:55	18:00	End of Day 8		

Time (min)	Start	End	TEMPP Agenda Joint Sessions TIMM - TEP		Tentative Resource Person
Day 8: Wednesday, 23 April 2025					
30	8:30	9:00	Registration		
10	9:00	9:10	TEMPP 13: D Principles in Consultation and Official Approval of a TEP	Presentation	Alfath Abu Bakar
15	9:10	9:25	TEMPP 14: E Principles in Public awareness and knowledge of the TEP	Presentation	Admiral Musa Julius
15	9:25	9:40	TEMPP 15: F Principles in Regular Exercises and Improvements of the TEP	Presentation	Ghazala Naeem
15	9:40	9:55	Group work Assignment: Implementation Plan and Follow up		Facilitator Team
35	9:55	10:30	TEMPP DEF Discussion: Approval, Awareness Raising, and Testing Workplan	Group work	Participants
30	10:30	11:00	COFFEE BREAK		
30	11:00	11:30	TEMPP DEF Discussion: Approval, Awareness Raising, and Testing Workplan	Group work	Participants
60	11:30	12:30	TEMPP DEF Share back: Approval, Awareness Raising, and Testing Workplan	Group work	Participants
60	12:30	13:30	LUNCH BREAK		
30	13:30	14:00	TEMPP G Discussion: Implementation Plan and Follow Up	Group work	Participants
30	14:00	14:30	TEMPP G Share back: Implementation Plan and Follow Up	Group work	Participants
30	14:30	15:00	COFFEE BREAK		
60	15:00	16:00	Clossing of TEMPP Training * Evaluation of TEMPP Session * Certificate * Closing Remarks - WG-3 Chair - ICG/IOTWMS Secretariat - INCOIS		
10	16:00	16:10	End of Day 9		