



**UNESCO / IOC
INTERNATIONAL TSUNAMI INFORMATION CENTER (ITIC)**

**ITIC TRAINING PROGRAMME HAWAII (ITP-HAWAII)
TSUNAMI EARLY WARNING SYSTEMS
AND THE PACIFIC TSUNAMI WARNING CENTER (PTWC) ENHANCED PRODUCTS,
TSUNAMI EVACUATION PLANNING AND UNESCO IOC TSUNAMI READY PROGRAMME**

**7-18 August 2023
Honolulu, Hawaii USA**

The ITIC Training Program on Tsunami Early Warning and Mitigation Systems has focused since 2005 on improving operating procedures for tsunami warning and emergency response as essential for successful tsunami warning. While infrequent, tsunamis can be extremely deadly because of their quick onset and immediate impact in minutes. In order to warn quickly and have the public evacuate when necessary, agencies must pre-plan and have protocols and procedures which are well-known to every stakeholder and to the public, and which are well-exercised and practiced. Communities must know their hazard and risk, and prepare in advance, so that every person can recognize the tsunami danger and know what to do to save their lives.

This training follows the tsunami warning chain, with week one focusing on tsunami warning activities and week two focusing on tsunami emergency response. Emphasis is on the importance of Standard Operating Procedures (SOPs) for enabling consistent and rapid tsunami warning and response, and using Hawaii as a working example. SOP development is a dynamic process, and each event is unique in its generation and impact, and so also in its response. In every event, we learn a little more about the science of tsunamis and how to better mitigate against their impact. The ITP-Hawaii will use Hawaii as a working example of an end-to-end tsunami warning and mitigation system demonstrating close stakeholder coordination and partnership for operational warnings and in preparedness activities.

Training activities will include warning and response decision-making, use of decision-support tools, and evacuation planning. Emphasis is also placed on building community preparedness, especially for local tsunamis, through the UNESCO IOC Tsunami Ready programme.

Speakers and Resource Persons (Biographies available)

International Tsunami Information Centre (ITIC), UNESCO/IOC NOAA, Honolulu, HI USA

Dr. Laura Kong, Director

ITIC Staff (Carolina Hincapié-Cárdenas, Desiree Bayouth García, Marie Eblé,

Tammy Fukuji, Ethan Hui)

Pacific Tsunami Warning Center (PTWC), NOAA, Honolulu, HI, USA

Dr. Charles "Chip" McCreery, Director

Dr. Stuart Weinstein, Deputy Director

PTWC Duty Scientist Staff (Dr. Nathan Becker, Stanley Goosby, Kanoa Koyanagi, Dr. Andrei

Natarov, Dr. David Walsh, Dr. Dailin Wang, Dr. Jonathan Weiss)
 Indian Ocean Tsunami Information Centre (IOTIC), IOC, Jakarta, Indonesia
 Ardito Kodijat, Head, Indian Ocean Tsunami Information Center
 Hawaii State Emergency Management Agency (HI-EMA), Hawaii, USA
 Col. James Barros, Administrator
 HI-EMA Staff (Adam Weintraub, Communication Director, Jill Matsumoto, Matthew Wall, Operations, Ryan Hirae, Telecomm)
 Honolulu Department of Emergency Management (DEM), City and County of Honolulu, USA
 Hirokazu Toiya, Administrator
 DEM Staff (Jennifer Walter, Deputy Director, Renise L. Haili Bayne, Plans and Operations)
 University of Hawaii (UH) at Manoa, Honolulu, HI, USA
 Dr. Kwok Fai Cheung, Professor, Dept of Ocean and Resources Engineering (ORE), School of Earth Science and Technology (SOEST)
 Dr. Bruce Howe, Research Professor, ORE, SOEST, and ITU/WMO/IOC UNESCO Joint Task Force Chair for SMART Cables
 Dr. Ian Robertson, Professor, Dept of Civil & Environmental Engineering, School of Engineering
 University of Hawaii Sea Level Center
 Dr. Matthew Widlansky, Associate Director
 Jerard "Ziggy" Jardin, Sea Level Specialist

FINAL PROVISIONAL AGENDA (version 5 August, adjusted 18 August 2023)

Session	Start Time	End Time	Topic	Location, Session Chair, Speaker
1 - 3			MONDAY, 7 AUGUST, DAY 1	NOAA IRC
			Opening, Course Overview, Tsunami Early Warning, Country Presentations	Laura Kong, ITIC
	8:00	8:45	PICKUP ALA MOANA HOTEL (AMH, Polynesian Hospitality bus - Art, Desiree to meet group); TRANSIT to NOAA IRC training venue	Art Sonen, Desiree Bayouth Garcia, ITIC
	8:45	9:15	Registration	
1.1	9:15	10:00	Opening Welcome and Self-introductions	ITIC, PTWC, NWS PR, Participants
1.2	10:00	10:15	Programme Logistics – Health and Safety, IRC Building and Foreign Visitor Rules, Local Transportation, Coffee/Tea/Lunch Breaks, Information Technology Support	Kong, Art Sonen, Tammy Fukuji, ITIC
	10:15	10:30	COFFEE / TEA BREAK	
1.3	10:30	10:45	Course Overview, Manual, Materials, including Awareness and TW Tools	Carolina Hincapié-Cárdenas, ITIC
2.1	10:45	11:15	Responding Rapidly and Effectively: Tsunami Warning and Emergency Response Requirements	Kong
2.2	11:15	12:15	Country Presentations (15 min each) - 4 countries	Countries

	12:15	13:30	LUNCH	
			Country Presentations, IOC Tsunami Warning and Mitigation Systems, Earthquake and Tsunami Science, ITIC and PTWC visit	Hincapié-Cárdenas
2.2	13:30	14:00	Country Presentations (15 min each) - 2 countries	Countries
2.3	14:00	14:30	UNESCO IOC Global Tsunami System: Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS); Roles of Tsunami National Contacts, Regional Tsunami Service Providers and Tsunami Information Centers, Tsunami Warning Focal Points, National Tsunami Warning Centers	Charles McCreery, PTWC
3.1	14:30	15:15	What earthquake science you need to know to warn for and respond to tsunami warnings? Earthquake Seismology - what, where, how, when, and damage caused	McCreery
	15:15	15:30	COFFEE / TEA BREAK	
3.2	15:30	16:15	What tsunami science you need to know to warn for and respond to tsunami warnings? Tsunami generation, propagation, and inundation - what, where, how, when, and damage caused	Dailin Wang, PTWC
3.3	16:15	16:45	ITIC and PTWC visit (2 groups) - overview	ITIC, PTWC
	16:45	16:50	Next Day Announcements	ITIC
	17:00	17:45	RETURN TO HOTEL	Bayouth García
4-5			TUESDAY, 8 AUGUST, DAY 2	NOAA IRC
			Tsunami Hazard Assessment - Hawaii example	Bayouth García
	8:15	8:45	PICKUP ALA MOANA HOTEL (Polynesian Hospitality bus); TRANSIT to NOAA IRC training venue	Bayouth García, Sonen
	8:50	9:00	Day Overview	ITIC
4.1	9:00	9:30	Tsunami Warning and Mitigation Systems – Hawaii example	Kong
4.2	9:30	10:30	Tsunami Hazard Risk Assessment: Modeling and Mapping of Tsunami for Inundation and Land Evacuation - Hawaii example	Prof. Kwok Fai Cheung, Univ of Hawaii at Manoa
	10:30	10:45	COFFEE / TEA BREAK	
4.3	10:45	11:30	Tsunami Hazard Risk Assessment: Modeling and Mapping of Tsunami for Port and Harbor Planning and Response - Hawaii example	Cheung
4.4	11:30	12:00	Mitigation: Ports and Harbors, and Marine Sector Readiness	ITIC
	12:00	13:15	LUNCH	
			Tsunami-resistant Building Design, Tsunami Warning Center and Emergency Response (TWC/TER) and Lessons Learned	Kong

4.5	13:15	14:15	Tsunami Mitigation: Designing buildings to withstand tsunamis - FEMA P646 docs, ASCE 7 2016 and International Building Code 2018. Tsunami Design Zone Maps and Vertical Evacuation - Hawaii example	Prof. Ian Robertson, Univ of Hawaii at Manoa
5.1	14:15	14:45	Tsunami Warning Center Overview: What do Tsunami Warning Centers (TWCs) do? What do TWCs provide to Tsunami Emergency Response (TER) agencies? Challenges in Detection and Tsunami Threat Assessment	McCreery
5.2	14:45	15:15	Tsunami Emergency Response Overview: What do TER agencies provide to the Public? Challenges in Alerting, Evacuation, Safe-to-Return (All-Clear), and Preparedness	Hincapié-Cárdenas, ITIC
	15:15	15:30	COFFEE / TEA BREAK	
5.3	15:30	16:45	Lessons Learned from Past Tsunamis – Warning and Response (Hawaii 1946, 1986, 1994; Chile 1960; Papua New Guinea 1998; Japan 1983/1993; Nicaragua 1992 / Java 2006 / Mentawai 2010; Sumatra 2004; Tonga 2006; American Samoa/Samoa/Tonga 2009; Chile 2010; Japan 2011; Bengkulu 2012; Haida Gwaii 2012; Kaikoura NZ 2016, Palu and Anak Krakatau 2018, Tonga 2022)	McCreery, Kong
	16:45	16:50	Next Day Announcements	ITIC
	17:00	17:45	RETURN TO HOTEL	Bayouth García
5-7			WEDNESDAY, 9 AUGUST, DAY 3	NOAA IRC
			Country Presentations, Standard Operating Procedures (SOPs), PTWC SOPs	Hincapié-Cárdenas
	8:15	8:45	PICKUP ALA MOANA HOTEL (Polynesian Hospitality bus); TRANSIT to NOAA IRC	Bayouth García
	8:50	9:00	Day Overview	ITIC
2.2	9:00	10:00	Country Presentations (15 min each) - 4 countries	Countries
5.4	10:00	10:30	IOC TWC and TER SOP Manual, End-to-end Tsunami Warning – Stakeholder and their needs, Roles and Responsibilities, Standard Operating Procedures, and their linkages (IOC MG 76)	Kong
5.5	10:30	11:00	SOPs and Checklists: TWC Templates and examples for Distant, Regional, and Local Tsunamis: Monitoring, Detection and Evaluation, Communications, Message Dissemination (IOC MG 76)	McCreery
	11:00	11:15	COFFEE / TEA BREAK	
			HOMEWORK - Review & improve country TWC SOP / Checklists (especially for local/regional threat). Reference for Day 9 EHW-23 exercise	

6.1	11:15	12:00	Pacific Tsunami Warning Center: Crisis Event SOPs: Earthquake and Sea Level Monitoring (Data networks and acquisition, quality-control/health status), Earthquake Analysis Methods, Threat Analysis, Forecasting, Products, Dissemination	McCreery
6.2	12:00	12:30	Pacific Tsunami Warning Center: Routine Operations SOPs: Quality Control and redundancy, contingency and backup (PTWC Operations, Systems and Procedures Manual)	McCreery
	12:30	13:45	LUNCH	
			PTWC SOPs, TWC Topics - Earthquake Source Characterization, PTWC visit, Tsunami Warning Decision Support Tools	Bayouth Garcia
7.1	13:45	14:05	TWC Operations: Real-time Earthquake Detection and Fast Source Characterization, Methods and Limitations: Locating Earthquakes (seismometers, seismic stations, sparse networks and hypocentral bias, etc)	Kanoa Koyanagi, PTWC
7.2	14:05	14:30	TWC Operations: Real-time Earthquake Detection and Fast Source Characterization, Methods and Limitations: Estimating Magnitudes (macroscopic intensity and instrumental)	Koyanagi
7.3	14:30	14:55	TWC Operations: Real-time Earthquake Detection and Fast Source Characterization, Methods and Limitations: Determine Fault Mechanisms (Double-couple 1st motions to W-Phase Centroid Moment Tensors)	Koyanagi
	14:55	15:10	COFFEE / TEA BREAK	
7.4	15:10	15:55	2 Group (switch after 45 minutes): Group 1: PTWC Data networks and acquisition, monitoring, analysis, quality-control/health status, communication and dissemination, redundancy, contingency/backup, etc Group 2: Rm 1377 Tsunami Warning Decision-Support Tools 1 - Overview of available tools. Alerts, (CISN); Sea level monitoring (Tide Tool, IOC Sea Level Monitoring web site); Global Historical Tsunami Databases (WDS/NCEI web tools), Tsunami Travel Times (TTT); Hazard Assessment (TsuCAT) Tsunami Warning Decision-Support Tools 2 – Online Earthquake, Sea Level, and Tsunami Information: Earthquake (USGS web site: Earthquake, CMT, ShakeMap, PAGER; other sites), Sea level (other real-time data sites: US, international), Tsunami (TSP, national tsunami warning centers, other sites)	Jonathan Weiss, PTWC Tools 1, Kong Tools 2, David Walsh, PTWC

	15:55	16:00	Switch - PTWC and Rm 1377	
	16:00	16:45	Switch: Group 1 to Rm 1377 Group 2 to PTWC	
	16:45	16:50	Next Day Announcements	ITIC
	17:00	17:45	RETURN TO HOTEL	Bayouth García
7-8			THURSDAY, 10 AUGUST, DAY 4	NOAA IRC
			TWC Topics - Sea Level and Tsunami Monitoring, Country Presentations	Kong
	8:15	8:45	PICKUP ALA MOANA HOTEL (Polynesian Hospitality bus); TRANSIT to NOAA IRC	Bayouth García
	8:50	9:00	Day Overview	ITIC
7.5	9:00	9:55	2 Groups (switch after 55 minutes): Group 1: Rm 1377 a. TWC Operations: Sea Level Monitoring - Methods, Instruments, Limitations, Challenges b. UH Sea Level Center Group 2: Rm 1564 Sea Level Station Instrumentation - 'show-and-tell'	Stanley Goosby, PTWC Matthew Widlansky, Univ of Hawaii Sea Level Center (UHSLC) Jerard 'Ziggy' Jardin, UHSLC
	9:55	10:05	Switch - Rm 1377 and Room 1564	
	10:05	11:00	Switch: Group 1 to Rm 1564 Group 2 to Rm 1377	
	11:00	11:15	COFFEE / TEA BREAK	
2.2	11:15	12:30	Country Presentations (15 min each) - 5 countries	Countries
	12:30	13:45	LUNCH	
			PTWC Enhanced Products, Travel time and Wave Amplitude Forecasting, NTWC and TER Guidance	Hincapié-Cárdenas
8.1	13:45	14:30	Pacific Tsunami Warning Center Enhanced Products - Why, What, Criteria, Staging of Products; Explanation of Each Product: Public Text, Graphical Deep-Ocean Tsunami Amplitude, Coastal Tsunami Amplitude, Coastal Tsunami Amplitude Polygons, Tsunami Amplitude Statistics, Coastal Tsunami Amplitude KMZ file (video and discussion)	McCreery
8.2	14:30	15:00	PTWC Operations: Travel Time Forecasting – Methods, Limitations, Uncertainty, Sensitivity Studies (Location, Depth, Magnitude)	Wang

8.3	15:00	16:00	PTWC Operations: Wave Amplitude Forecasting – Methods (ATFM, SIFT, RIFT), Limitations, Uncertainty, Sensitivity Studies (Location, Depth, Magnitude)	Wang
	16:00	16:15	COFFEE / TEA BREAK	
8.4	16:15	16:45	NTWC and TER Guidance on how to use PTWC Enhanced Products for National Warnings and Evacuation - Land and Marine Threats and Public Safety: Flow Charts, Criteria Tables, Timeline-driven SOPs, Message Templates (IOC MG 76)	Kong
	16:45	16:50	Next Day Announcements	ITIC
	17:00	17:45	RETURN TO HOTEL	Bayouth García
9-10			FRIDAY, 11 AUGUST, DAY 5	HI-EMA, NOAA IRC
			Hawaii State Emergency Management Agency visit	Hincapié- Cárdenas
			<i>HI-EMA was fully activated to respond to the Lahaina Fire disaster that occurred on August 8, Therefore, the HI-EMA visit was cancelled, & Agenda adjusted to give more time to other sessions (not reflected below).</i>	
	8:15	8:45	PICKUP ALA MOANA HOTEL (Polynesian Hospitality bus); TRANSIT to Hawaii State Emergency Management Agency (HI-EMA) Emergency Operations Center, Diamond Head Crater	Bayouth García, Sonen
9.1	9:00	11:00	Visit Hawaii State Emergency Management Agency (HI-EMA): Response to PTWC Tsunami Products, Hawaii Emergency Alert System (EAS) and Siren System, Preparedness and Mitigation	Col. James Barros, Adam Weintraub, Jill Matsumoto, Matthew Wall, Ryan Hirae, HI-EMA
	11:00	11:15	TRANSIT to Kahala Mall, Whole Foods Market	
	11:15	12:30	LUNCH, Kahala Mall (on your own). https://www.kahalamallcenter.com/directory/whole-foods-market/	
	12:30	13:00	TRANSIT to IRC	
			Country Presentations, Week 2 Planning, TWC Free Choice (SOPs, Tsunami Warning Decision Support Tools, PTWC software demo)	Bayouth García
2.2	13:00	13:30	Country Presentations (15 min each) - 2 countries	Countries
10.1	13:30	13:45	Week 2 activities – Using QGIS to create Evacuation Map	Hincapié- Cárdenas, Bayouth García. Sonen, Hui
10.2	13:45	16:30	3 Groups, 3 Sessions, Switch after 50 minutes	
	13:45	14:00	Instructions and switch to rooms	

	14:00	14:50	Group 1: Rm 1377 Review & improve your Review & improve your Country TWC SOP / Checklists. 1-to-1 or small group discussion and question-and-answer on your SOPs. Reference for Day 9 Exercise Hawaii Wave 2023 Group 2: ITIC Library and Conference Room Install and use Tsunami Warning Decision-Support Tools (CISN, Tide Tool, TTT), Tsunami Coastal Assessment Tool (TsuCAT) Group 3: PTWC Demonstration. PTWC Operational Tools (SIFT, RIFT, Wphs CMT)	PTWC, ITIC ITIC, PTWC Weiss
	14:50	15:05	COFFEE/TEA BREAK. Switch - Rm 1377, ITIC, PTWC	
	15:05	15:55	Switch: Group 1 to ITIC Library and Conference Group 2 to PTWC Group 3 to Rm 1377	
	15:55	16:00	Switch - Rm 1377, ITIC, PTWC	
	16:00	16:50	Switch: Group 1 to PTWC Group 2 to Rm 1377 Group 3 to ITIC Library and Conference	
	16:50	16:55	Next Day Announcements	ITIC
	17:00	17:45	RETURN TO HOTEL	Bayouth García
			SATURDAY-SUNDAY, 12-13 AUGUST – FREE DAYS	
11-13			MONDAY, 14 AUGUST, DAY 6	DEM, NOAA IRC
			City and County of Honolulu, Dept of Emergency Management visit	Hincapié- Cárdenas
	8:15	8:45	PICKUP ALA MOANA HOTEL (Polynesian Hospitality bus); TRANSIT to Honolulu Department of Emergency Management, Honolulu Municipal Building	Hincapié- Cárdenas, Bayouth García, Hui, Kong
11.1	9:00	11:00	Visit Honolulu Department of Emergency Management (DEM): County Response to PTWC Tsunami Products, Tsunami Evacuation (vertical), Alert Dissemination / Siren System, Signage, Preparedness and Mitigation, including Tourist and Special needs population readiness	Hirokazu Toiya, Jennifer Walter, Renise Haili Bayne, Honolulu DEM
	11:00	11:30	TRANSIT to Moanalua Shopping Center	
	11:30	12:45	LUNCH, Moanalua Shopping Center (on your own). https://www.moanalushoppingcenter.com/stores-restaurants	
	12:45	13:00	TRANSIT to IRC	

			Country Presentations, NTCW Competencies, Tsunami Emergency Response (TER) SOPs, Communications	Kong
			<i>TW Tools, TsuCAT, QGIS troubleshooting as needed during Week 2</i>	
2.2	13:00	13:30	Country Presentations (15 min each) - 2 countries	Countries
12.1	13:30	13:45	NTWC Competencies (draft approved at ICG/PTWS-XXVIII, 2019)	Kong
12.2	13:45	14:30	SOPs and Checklists: TER operations - Example Warning Plans for Coordination of Information Flow and Evacuation (IOC MG 76). Private Sector SOPs. Developing timeline-driven SOPs (Who does What, and When (Roles and Responsibilities?))	Hincapié-Cárdenas
			HOMEWORK - Review & improve country TWC TER SOP / Checklists (especially for local/regional threat) and Media SOP. Reference for Day 9 EHW-23 exercise	
12.3	14:30	15:15	Emergency communications - Robustness, reliability, redundancy. Technologies for the downstream transmission of warnings to communities. Case Study: Palu, Indonesia tsunami, 2018	Kong, Kodijat
	15:15	15:30	COFFEE / TEA BREAK	
			Local Source SOP, UNESCO IOC Tsunami Ready, QGIS	Kong
12.4	15:30	15:45	Local-Source Tsunami Response Best Practice (approved at ICG/PTWS-XXVIII, 2019)	Kong
13.1	15:45	16:30	Implementing Tsunami Ready programs to recognize community readiness - UNESCO IOC Tsunami Ready Recognition Programme - Guidelines, Recognition Process (IOC MG 74)	Kodijat
10.1	16:30	16:45	HOMEWORK - QGIS installation and familiarization - instructions	Hincapié-Cárdenas, Bayouth García
	16:45	16:50	Next Day Announcements	ITIC
	17:00	17:45	RETURN TO HOTEL	Bayouth García
13-14			TUESDAY, 15 AUGUST, DAY 7	NOAA IRC
			Event flow, Evacuation Planning	Hincapié-Cárdenas
	8:15	8:45	PICKUP ALA MOANA HOTEL (Polynesian Hospitality bus); TRANSIT to NOAA IRC	Bayouth García
	8:50	9:00	Day Overview	ITIC
2.2	9:00	9:45	Country Presentations (15 min each) - 3 countries	Countries

13.2	9:45	10:15	Improving Response and Managing (reliable and unreliable) Information Flow during an Event: Media and Social Media - Good Practices	Kodijat
13.3	10:15	11:15	Learning Activity: Improving Response – Tsunami Warning and Emergency Response - What happens during an event?	ITIC, IOTIC, PTWC
	11:15	11:30	COFFEE / TEA BREAK	
13.4	11:30	12:00	Building Awareness and Community Preparedness - Tsunami Evacuation Planning - considerations and requirements. Preparing for Community Tsunami Evacuations: from inundation to evacuation maps, response plans and exercises (IOC MG 82)	Kong
	12:00	13:15	LUNCH (TWTools, TsuCAT, QGIS troubleshooting as needed)	
			Hazard Assessment, Evacuation Maps, Country Presentations	Bayouth García
14.1	13:15	13:45	TR ASSESS-1: Tsunami Hazard Risk Assessment - Data Requirements, Methods, Techniques. Case Study - Using ComMIT / MOST tsunami model for hazard assessment	Marie Eblé, ITIC
14.2	13:45	14:15	Hazard Assessment - IOC Regional Efforts on Tsunami Seismic Sources - Caribbean, Central America, South China Sea, Southwest Pacific meeting outcomes, and upcoming plans for Colombia and Ecuador and other locations	Kong
14.3	14:15	14:45	TR PREP-1: Making Community-based Evacuation Maps, Routes, and Signage - guidance	Kodijat
14.4	14:45	15:30	Create Community Evacuation Map - Caribbean and Pacific examples, 'paper and pencil'	Hincapié-Cárdenas, Bayouth García
	15:30	15:45	COFFEE / TEA BREAK	
2.2	15:45	16:45	Country Presentations (15 min each) - 4 countries	Countries
	16:45	16:50	Next Day Announcements	ITIC
	17:00	17:45	RETURN TO HOTEL	Bayouth García
14			WEDNESDAY, 16 AUGUST DAY 8	NOAA IRC
			Evacuation Maps	Hincapié-Cárdenas
	8:15	8:45	PICKUP ALA MOANA HOTEL (Polynesian Hospitality bus); TRANSIT to NOAA IRC	Bayouth García
	8:50	9:00	Day Overview	ITIC
14.5	9:00	9:30	Evacuation maps when inundation modeling is not possible or practical – Case Study - Caribbean example	Bayouth García

14.6	9:30	9:40	Create Community Evacuation Map, including routes, signage – Caribbean and Pacific examples QGIS Instructions	Hincapié-Cárdenas, Bayouth García
	9:40	10:30	Create Community Evacuation Map, including routes, signage - Caribbean and Pacific examples - QGIS	Participants
	10:30	10:45	COFFEE / TEA BREAK	
	10:45	11:30	Create Community Evacuation Map, including routes, signage - Caribbean and Pacific examples - QGIS (continued)	Participants
			HOMEWORK - Finish Evacuation Map	
			Response Plans, Awareness, Exercises	Bayouth García
14.7	11:30	12:15	TR RESP-1 and RESP-2: Making Tsunami Response Plans and Managing Emergency Response - guidance, how-to, and templates	Kong
			HOMEWORK - Finish reviewing country TER SOP / Checklists for exercise. Finish community response plan.	
	12:15	13:30	LUNCH (<i>TWTools, TsuCAT, QGIS troubleshooting as needed</i>)	
14.8	13:30	14:15	TR PREP-3 and PREP-4: Building Awareness and Community Preparedness 1 - Strategies and examples, World Tsunami Awareness Day, Caribbean PAE Strategy and Philippines Development Process, ITIC available materials, Hawaii examples	Kodijat, Hincapié-Cárdenas
14.9	14:15	15:15	TR PREP-3: Creating Public Awareness Material, including evacuation (poster, presentation, video, etc)	"Country" Teams
	15:15	15:30	COFFEE / TEA BREAK	
14.10	15:30	16:15	Team Sharing: Creating Public Awareness poster	Hincapié-Cárdenas, Bayouth García, "Country" Teams, "Judges"
14.11	16:15	16:45	TR PREP5: Building Awareness and Community Preparedness 2 - Tsunami Exercises and Drills, IOC Community Tsunami Exercise Guideline (IOC MG 86), examples	Kodijat
	16:45	16:50	Next Day Announcements	ITIC
	17:00	17:45	RETURN TO HOTEL	Bayouth García

14-15			THURSDAY, 17 AUGUST, DAY 9	NOAA IRC, Various rooms for EHW-23
			Tsunami Ready board game, Exercise Hawaii Wave 2023 (EHW-23)	McCreery
	8:15	8:45	PICKUP ALA MOANA HOTEL (Polynesian Hospitality bus); TRANSIT to NOAA IRC	Bayouth García
	8:50	9:00	Day Overview	ITIC
14.12	9:00	10:00	Tsunami Ready board game - instruction and playing	Kodijat, Hincapié- Cárdenas, All
15.1	10:00	10:30	Exercise Hawaii Wave 2023 (EHW-23) – Decision-making using PTWC Enhanced Products. EXPLAN: Introduction, Format, Conduct	Exercise Controllers (Kong, Eblé, Kodijat, McCreery)
	10:30	10:45	COFFEE / TEA BREAK	
15.2	10:45	12:00	EHW-23 Tsunami Exercise Preparation – "Country" TWC / TER SOPs, Criteria Tables, Response Plans, Alerting, Media, Evacuation, Cancellation, etc	"Country" Teams
	12:00	13:15	LUNCH	
			EHW-23	McCreery
15.3	13:15	13:45	EHW-23 Tsunami Exercise – Setup and last instruction	Exercise Controllers
15.4	13:45	16:00	EHW-23 Tsunami Exercise – Decision-making using PTWC Enhanced Products	"Country" Teams, Simulators, Exercise Controllers
	16:00	16:15	COFFEE / TEA BREAK	
15.5	16:15	16:45	EHW-23 Post-Exercise Evaluation – Preparation for Press Conference	Exercise Controllers, "Country" Teams
			HOMEWORK - Finish Situation Report and Briefing	
	16:45	16:50	Next Day Announcements	ITIC
	17:00	17:45	RETURN TO HOTEL	Bayouth García
15-19			FRIDAY, 18 AUGUST, DAY 10	NOAA IRC
			EHW-23 Press Conference, Emerging Technologies, Logistics wrap-up	Hincapié- Cárdenas
	8:15	8:45	PICKUP ALA MOANA HOTEL (Polynesian Hospitality bus); TRANSIT to NOAA IRC	Bayouth García
	8:50	9:00	Day Overview	ITIC

15.6	9:00	10:00	EHW-23 Tsunami Exercise Hotwash – Press Conference: "Country" brief followed by "Media" / Audience Question-and-Answer	"Country" Team representatives (TWC and TER), "Media"
	10:00	10:15	COFFEE / TEA BREAK	
16.1	10:15	10:45	Improving Tsunami Warning - Emerging Techniques and Technologies: Earthquake Finite Fault Modeling, PTWC real-time GNSS/GPS detection of co-seismic deformation – <i>not given</i>	Stuart Weinstein, PTWC
16.2	10:45	11:15	Improving Tsunami Warning - Emerging Tools and Technologies: ITU/WMO/IOC SMART Cables for Observing the Ocean	Bruce Howe, ITU/WMO/UNESCO IOC JTF SMART Cables Chair
16.3	11:15	11:45	UN Decade for Ocean Science for Sustainable Development - Tsunamis	Kong, Kodijat
17.1	11:45	12:00	ITP-Hawaii 2023 Logistics wrap-up, Training evaluation	Hincapié-Cárdenas, Sonen, Fukuji
	12:00	13:15	LUNCH	
			Summary and Next Steps, Closing	Kong
18.1	13:15	13:45	2023-2024 Calendar: ICG and TOWS WG Action Items and Priorities – <i>see Calendar/Documents as IOC Tsunami Prog web site http://ioc-tsunami.org/</i>	Kong, Kodijat
18.2	13:45	14:30	Summary Discussion (Way Forward, Next Steps, Gaps and Needs): UNESCO IOC Tsunami Ready, World Tsunami Awareness Day, UN Decade of Ocean Science for Sustainable Development – <i>Discussions took place in previous sections</i>	ITIC, PTWC, IOTIC, SMART, All
	14:30	14:45	COFFEE / TEA BREAK	
19	14:45	15:30	Presentation of Certificates and Closing Ceremony	ITIC, PTWC, NWS PR
	15:45	16:30	RETURN TO HOTEL	Bayouth García
			Friday - Saturday, 18-19 AUGUST	
			Hotel Checkout - Depart for home country	