



**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 RECOGNITION PROGRAMME**

**19-30 August 2024 SHOA, Valparaíso, Chile**

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 and preparedness. Emphasis is on the importance of Standard Operating Procedures (SOPs) for enabling consistent and rapid tsunami warning and response. 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-TEWS Chile will use Chile 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 decision-making, use of decision-support tools, and evacuation planning, public awareness, drills, a field trip to understand tsunami deposits, and site visits to agencies involved in warning and response. Emphasis is also placed on building community preparedness, especially for local tsunamis, through the UNESCO IOC Tsunami Ready Recognition Programme.

## **Speakers and Resource Persons (Biographies available)**

### **International Resource Persons:**

- Dr. Bruce Howe, ITU/WMO/IOC UNESCO Joint Task Force Chair for SMART Cables, Hawaii, USA  
Dr. Laura Kong, Director, UNESCO-IOC International Tsunami Information Center (ITIC), Hawaii, USA  
Dr. Charles "Chip" McCreery, Director, Pacific Tsunami Warning Center (PTWC), Hawaii, USA  
Week 2  
Dr. Öcal Necmioğlu, ICG/PTWS and ICG/CARIBE-EWS Technical Secretary, IOC Tsunami Resilience Section, France  
Ms. Ceci Rodriguez Cruz, Director, SMART Cable International Programme Office, Hawaii, USA  
Professor Kenji Satake, Emeritus Professor, Earthquake Research Institute, Univ of Tokyo, Tokyo, Japan  
Dr. Stuart Weinstein, Deputy Director, PTWC, Hawaii, USA, Week 1

### **Chilean Resource Persons:**

- Mr. Sebastián Arriola, National Seismological Center (CSN), University of Chile, Santiago, Chile  
Dr. Sergio Barrientos, Director, CSN, University of Chile, Santiago, Chile  
Dr. Matías Carvajal, Pontifical Catholic University of Valparaíso, Valparaiso, Chile  
Dr. Patricio Catalán, Technical University Federico Santa María, Valparaiso, Chile  
Dr. Rodrigo Cienfuegos, Director, Centro de Investigación para la Gestión Integrada del Riesgo de Desastres (CIGIDEN), Santiago, Chile  
Dr. Marco Cisternas, Pontifical Catholic University of Valparaíso, Valparaiso, Chile  
Dr. Mauricio Fuentes, Universidad de Chile, Santiago, Chile  
Mr. Jorge Gaete Vilches, Oceanography Department, SHOA, Valparaiso, Chile  
Ms. Alejandra Gubler, CIGIDEN, Santiago, Chile  
Mr. Juan Pablo Jorquera, Oceanography Department, SHOA, Valparaiso, Chile  
Dr. Marcelo Lagos, Pontifical Catholic University of Chile, Santiago, Chile  
Ms. Margarita Martinez Obando, Chief, Unidad de Preparación y Entrenamiento, Servicio Nacional de Prevención y Respuesta ante Desastres (SENAPRED), Santiago, Chile  
Lcdr. Matías Sifón, Associate Director, ITIC, and Head of Oceanography Department, SHOA, Valparaiso, Chile  
Dr. Patricio Winckler, Universidad de Valparaíso, Valparaiso, Chile  
Mrs. Cecilia Zelaya, Oceanography Department, SHOA, Valparaiso, Chile  
Senior Representative, Unidad de Preparación y Entrenamiento, Servicio Nacional de Prevención y Respuesta ante Desastres (SENAPRED), Santiago, Chile

**PROVISIONAL AGENDA** (version 15 August 2024)

Session	Start Time	End Time	Topic	Speaker
<b>1 - 3</b>			<b>MONDAY, 19 AUGUST, DAY 1</b>	
			<b>Welcome, Course Overview, Tsunami Early Warning, Opening Ceremony</b>	
	7:45	8:30	PICKUP VINA DEL MAR TRANSIT TO SHOA	
	8:30	9:00	Registration	
<b>1.1</b>	9:00	9:30	Welcome and Introductions	Lcdr. Matías Sifón, SHOA
<b>1.2</b>	9:30	9:45	Programme Logistics – Health and Safety, SHOA Campus, Local Transportation, Coffee/Tea/Lunch Breaks, Internet/Phone/Fax, Visitor Rules, etc	
<b>1.3</b>	9:45	10:00	Course Overview, Meeting Site, Materials, including Awareness and TW Tools	Dr. Laura Kong, ITIC
<b>2.1</b>	10:00	10:30	Responding Rapidly and Effectively: Tsunami Warning and Emergency Response Requirements, Stakeholder and their needs, Roles and Responsibilities, Standard Operating Procedures, and their linkages	Kong
	10:30	10:45	Transfer to National Maritime Museum	
	10:45	12:15	Opening Ceremony, National Maritime Museum Group Photo	
	12:15	13:30	LUNCH	
			<b>IOC Tsunami Warning and Mitigation Systems, Earthquake and Tsunami Science, Country Presentations</b>	
<b>2.2</b>	13:30	14:00	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	Dr. Öcal Necmioğlu, IOC
<b>3.1</b>	14:00	14:45	What earthquake science do you need to know to warn for and respond to tsunami warnings? Earthquake Seismology - what, where, how, when, and damage caused	Dr. Kenji Satake, Univ of Tokyo
	14:45	15:00	COFFEE / TEA BREAK	
<b>3.2</b>	15:00	15:45	What tsunami science do you need to know to warn for and respond to tsunami warnings? Tsunami generation, propagation, and inundation - what, where, how, when, and damage caused	Dr. Stuart Weinstein, PTWC

3.3	15:45	16:30	Great Earthquakes (~M9+) and tsunamis, including 2004, 2011, old Kuril and 1700 Cascadia - why, where, impacts, and long-term probabilistic forecasts	Satake
2.3	16:30	17:00	Country Presentations (15 min each, 19 countries) - 2 countries, Barbados, Belize	
	17:00	17:45	RETURN TO HOTEL	
3 - 6			<b>TUESDAY, 20 AUGUST, DAY 2</b>	
			<b>South American hazard, End-to-end TEWS - Chile example, What to TWC provide to TER agencies? Country Presentations</b>	
	8:15	9:00	PICKUP VINA DEL MAR TRANSIT TO SHOA	
	9:00	9:15	Recap and Day Overview	
3.4	9:15	9:45	South American earthquake and tsunami hazards	Satake
4.1	9:45	10:30	Tsunami Warning and Mitigation Systems – overview Chile example 1. Tsunami Hazard Risk Assessment 2. Tsunami Warning Center (SNAM) 3. Tsunami Emergency Response (SENAPRED) 4. Tsunami Preparedness, Exercises, and Awareness	Sifón, SHOA SENAPRED
	10:30	10:45	COFFEE / TEA BREAK	
	10:45	11:15	Tsunami Warning and Mitigation Systems – overview - Chile example (continued)	
5.1	11:15	11:45	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	Necmioğlu
2.3	11:45	12:15	Country Presentations (15 min each) - 2 countries, Dominica, Grenada	Chile (moderator), Participants
	12:15	13:30	LUNCH	
			<b>What to TER agencies provide to public? Tsunami Warning Center and Emergency Response (TWC/TER) - Lessons Learned, Emerging Tools and Technologies, SNAM visit</b>	
5.2	13:30	14:00	Tsunami Emergency Response Overview: What do TER agencies provide to the Public? Challenges in Alerting, Evacuation, Safe-to-Return (All-Clear), and Preparedness	Kong

5.3	14:00	15:30	Lessons Learned from Past Tsunamis - Warning (Hawaii 1946; Chile 1960; Okushiri 1993; Nicaragua 1992 / Java 2006 / Mentawai 2010; Sumatra 2004; Tonga 2006; Samoa/Tonga 2009 (doublet); Chile 2010; Great East Japan 2011; Haida Gwaii 2012; Kaikoura NZ 2016, Indonesia 2018, Tonga 2022) Lessons Learned from Past Tsunamis - Response (Hawaii 1986, 1994; Papua New Guinea 1998; Samoa/American Samoa 2009; Chile 2010; Japan 2011, Palu Indonesia 2018)	Moderator: Sifón; Panel (science, warning, response, governance): Satake, Weinstein, Kong, Chile; Participants
	15:30	15:45	COFFEE / TEA BREAK	
6.1	15:45	16:00	UN Ocean Decade Tsunami Programme - goals	Necmioğlu
6.2	16:00	16:30	UN Ocean Decade Tsunami Warning goals - Emerging Tools and Technologies for faster and more accurate tsunami forecasts - ITU/WMO/IOC SMART Cables for Observing the Ocean	Dr. Bruce Howe, JTF SMART Chair; Ceci Rodriguez, SMART Cable International Programme Office
6.3	16:30	17:00	UN Ocean Decade Tsunami Warning goals - Emerging Techniques and Technologies for faster more accurate tsunami forecasts: Earthquake Finite Fault Modeling, GNSS/GPS detection of co-seismic deformation, "spaced-based ionosphere"	Satake
4.2	17:00	17:30	Group 1: Chile SNAM TWC operations drill. Tsunami Warning Center Operations Group 2/3/4 : Free time, SHOA conference room	SHOA team, Participants (4 groups 9 pers/group)
	17:30	18:15	RETURN TO HOTEL	
6 - 7			<b>WEDNESDAY, 21 AUGUST, DAY 3</b>	
			<b>Country Presentations, Emerging Tools and Technologies, TWC Standard Operating Procedures (SOPs), PTWC SOPs</b>	
	8:15	9:00	PICKUP VINA DEL MAR TRANSIT TO SHOA	
	9:00	9:15	Recap and Day Overview	
2.3	9:15	10:00	Country Presentations (15 min each) - 3 countries, Saint Lucia, St. Vincent and the Grenadines, Guatemala	Chile (moderator), Participants
6.4	10:00	10:30	UN Ocean Decade Tsunami Warning goals - 100% detection - non-seismic tsunami sources	Weinstein

6.5	10:30	10:45	UN Ocean Decade Tsunami Warning goals - 100% detection - non-seismic tsunami sources - Chile SHOA SOP	Jorge Gaete, SHOA
	10:45	11:00	COFFEE / TEA BREAK	
7.1	11:00	11:30	IOC TWC and TER SOP Manual (MG 76), SOPs and checklists: TWC Operations for Distant, Regional, and Local Tsunamis - Monitoring, Detection and Evaluation, Communications, Message Dissemination	Kong
7.2	11:30	12:15	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	Weinstein
	12:15	13:30	LUNCH	
			<b>PTWC SOPs and Enhanced Products, TWC Topics: Seismology Background and Operations, Travel Time and Amplitude Forecasting, TWC Staff Competencies, SNAM visit</b>	
7.3	13:30	13:45	PTWC Routine Operations SOPs: Quality Control and redundancy, contingency and backup. (PTWC Operations, Systems and Procedures Manual)	Weinstein
7.4	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)	Kong
7.5	14:30	14:45	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
7.6	14:45	15:15	TWC Seismology science background - Real-time Earthquake Detection and Fast Source Characterization, Methods and Limitations: Estimating Magnitudes (macroscopic intensity and instrumental), Determine Fault Mechanisms (Double-couple 1st motions to W-Phase Centroid Moment Tensors)	Satake
	15:15	15:30	COFFEE / TEA BREAK	

7.7	15:30	16:00	TWC Seismology operational considerations - Real-time Earthquake Detection and Fast Source Characterization: Methods and Limitations (same topics as in 7.6)	Weinstein
7.8	16:00	16:40	TWC Operations: Travel Time and Amplitude Forecasting – Methods, Limitations, Uncertainty, Sensitivity Studies (Location, Depth, Magnitude)	Dr, Mauricio Fuentes, Universidad de Chile
7.10	16:40	17:00	PTWS NTWC Staff Minimum Competencies (ICG/PTWS-XXX, 2023)	Kong
4.2	17:00	17:30	Group 2: Chile SNAM TWC operations drill. Tsunami Warning Center Operations  Group 1/3/4 : Free time, SHOA conference room	SHOA team, Participants (4 groups 9 pers/group)
	17:30	18:15	RETURN TO HOTEL	
8 - 9			<b>THURSDAY, 22 AUGUST, DAY 4</b>	
			<b>Visit SENAPRED (EOC), National Seismological Center (Univ of Chile)</b>	
	8:00	10:30	PICKUP VINA DEL MAR, TRANSIT TO SANTIAGO	
8.1	10:30	11:30	SENAPRED Emergency Operations Center	SENAPRED
8.2	11:30	12:30	National Seismological Center (CSN), Univ of Chile	Sebastian Arriola, National Seismological Center (CSN)
	12:30	15:00	TRANSIT TO VALPARAISO, SHOA (lunch during transit)	
			<b>Tsunami Emergency Response (TER) SOPs, Communications, TWC Topics: Decision Support Systems, SNAM visit</b>	
9.1	15:00	15:30	SOPs and Checklists: TER operations - Warning Plans for Coordination of Information Flow and Evacuation (IOC MG 76). Timeline-driven SOPs (Who does What, and When (Roles and Responsibilities))	Sifón
9.2	15:30	16:00	SOPs and Checklists, including Private Sector (hotels): Case Studies. Japan, New Zealand, Hawaii	Kong
9.3	16:00	16:30	Emergency communications - Robustness, reliability, redundancy. Technologies for the downstream transmission of warnings to communities. Case Study: Palu, Indonesia tsunami, 2018	Kong

7.9	16:30	17:00	TWC Operations: Decision Support System (DSS) - Chile example: Tsunami Warning Integrated Forecast System (Chile SIPAT)	Dr. Patricio Catalán, Technical University Federico Santa María
4.2	17:00	17:30	Group 3: Chile SNAM TWC operations drill. Tsunami Warning Center Operations  Group 1/2/4 : Free time, SHOA conference room	SHOA team, Participants (4 groups 9 pers/group)
			HOMEWORK - Review & improve country TWC and TER SOP / Checklists (especially for local/regional threat) and Media SOP. May be used for Day 8 exercise	
	17:30	18:15	RETURN TO HOTEL	
9			<b>FRIDAY, 23 AUGUST, DAY 5</b>	
			<b>Local Source SOPs, Learning Activity - Warning and Response Chain, Tsunami impacts to Ports and Harbors, Country Presentations</b>	
	8:15	9:00	PICKUP VINA DEL MAR TRANSIT TO SHOA	
	9:00	9:15	Recap and Day Overview	
9.4	9:15	9:45	Local-Source Tsunami Response Best Practice (approved at ICG/PTWS-XXVIII, 2019)	Satake
9.5	9:45	10:45	Learning Activity: Improving Response – Tsunami Warning and Emergency Response - What happens during an event?	Kong, Weinstein, all
	10:45	11:00	COFFEE / TEA BREAK	
9.6	11:00	11:45	Reducing tsunami impacts to port and harbors: Earthquake and tsunami engineering, and coastal adaptation perspectives	Dr. Patricio Winckler, Universidad de Valparaíso
2.3	11:45	12:15	Country Presentations (15 min each) - 2 countries, Mexico, Colombia	Chile (moderator), Participants
	12:15	13:30	LUNCH	
			<b>Tsunami Warning Learning Activities. 1. Decision-Making, 2. Decision-Support Tools, 3. Tsunami Monitoring Instrumentation, SNAM visit</b>	



<b>9.7</b>	13:30	13:45	<p>Instructions: Learning Activities (3 Groups switch after 60 min) Activities: 1. Tsunami Warning Decision-Making (Main Conf Room) 2. Tsunami Warning Decision-Support Tools (split into 2 sub-groups, 2a, 2b) 3. Tsunami Monitoring Instrumentation (outside)</p> <p>Rotation Order: Group 1: Activity 1, 2, 3 Group 2: Activity 2, 3, 1 Group 3: Activity 3, 1, 2</p> <p>Timing: Slot 1: 13:45 - 14:45 Switch: 14:45 - 14:50, 10 min Slot 2: 14:50 - 15:50 Switch: 14:50 - 15:00, 10 min Slot 3: 15:00 - 16:00 Switch: 16:00 - 16:10, 10 min Slot 3: 16:10 - 17:10</p>	Kong, Sifón
	13:45	17:10	Activity 1. Main Conf Room (60 min) Earthquake and Tsunami Monitoring and Analysis, Forecasting, and Threat decision-making using the 2015 (Illapel) and 2016 (Melinka) Chile earthquake and tsunami	Sebastian Arriola, CSN Cecilia Zelaya, SHOA Jasna Haro, SHOA
			Activity 2a. Small Conference Room 1 (30 min) Tsunami Warning Decision-Support Tools Message Alerts, (CISN, USGS web site (CMT, ShakeMap, PAGER, etc); Tsunami Databases (WDS/NCEI web tools), Tsunami Travel Time (TTT) calculation	Kong, ITIC Nayadet Pulgar, SHOA Sifón, SHOA
			Activity 2b. Small Conference Room 2 (30 min) Tsunami Warning Decision-Support Tools - Overview: Sea level monitoring (Tide Tool, IOC Sea Level Monitoring web site)	Weinstein, PTWC Jorge Gaete, SHOA
			Activity 3. Outside (60 min) Tsunami Monitoring Instrumentation: 1. Coastal sea level stations 2. DART deep-ocean systems 3. Methods of Data Transmission	Juan Pablo Jorquera, SHOA Jorge Araya, SHOA Eugenio San Martín, SHOA
<b>4.2</b>	17:10	17:40	Group 4: Chile SNAM TWC operations drill. Tsunami Warning Center Operations  Group 1/2/3 : Free time, SHOA conference room	SHOA team, Participants (4 groups 9 pers/group)
	17:40	18:25	RETURN TO HOTEL	

			<b>SATURDAY, 24 AUGUST - FIELD TRIP - Marine Preparedness, Tsunami Deposits</b>	More info at later date
	8:30		PICKUP HOTEL	
	9:30	13:30	Site 1: Campiche - Methods and Role of Paleoseismology and Tsunami Deposits in Tsunami Hazard Assessment	Dr. Marco Cisternas, Pontificia Universidad Catolica de Valparaiso
	14:00	15:45	Site 2: Quintero Bay - Tsunami Hard Countermeasures, Liquefied Natural Gas Quintero Terminal	Liquefied Natural Gas Quintero
	16:00	17:00	Site 3: Quintero Bay Tsunami Response Plan	Cisternas
		18:00	RETURN TO HOTEL	
			<b>SUNDAY, 25 AUGUST - FREE DAY</b>	
			<b>FREE DAY</b>	
<b>10</b>			<b>MONDAY, 26 AUGUST, DAY 6</b>	
			<b>Country Presentations, UNESCO-IOC Tsunami Ready Recognition Programme, TRRP ASSESS, Hazard Risk Assessment</b>	
	8:15	9:00	PICKUP VINA DEL MAR TRANSIT TO SHOA	
	9:00	9:15	Recap and Day Overview	
<b>2.3</b>	9:15	10:00	Country Presentations (15 min each) - 3 countries, Ecuador, Peru, Argentina	Chile (moderator), Participants
<b>10.1</b>	10:00	10:30	Implementing preparedness programs to recognize community readiness - UNESCO IOC Tsunami Ready Recognition Programme - Guidelines, Recognition Process (IOC MG 74)	Kong
	10:30	10:45	COFFEE / TEA BREAK	
<b>10.2</b>	10:45	11:15	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
<b>10.3</b>	11:15	11:45	TR ASSESS-1: Tsunami Hazard Risk Assessment - Data Requirements, Methods, Techniques	Dr. Charles McCreery, PTWC
<b>10.4</b>	11:45	12:15	Tsunami Hazard Risk Assessment: Tsunami Inundation Modeling and Mapping - Chile example	Cecilia Zelaya, SHOA
	12:15	13:30	LUNCH (TW Tools troubleshooting as needed)	

			<b>TRRP PREP, Evacuation Map, Vina del Mar Evacuation Drill</b>	
<b>10.5</b>	13:30	14:00	TR PREP-1: Making Community-based Evacuation Maps, Routes, and Signage - guidance	Alejandra Gubler, CIGIDEN
<b>10.6</b>	14:00	15:00	Create Community Evacuation Map - paper and pencil - Vina del Mar, Chile examples	Participants
	15:00	15:15	COFFEE / TEA BREAK	
	15:15	16:00	Transit to Vina Del Mar for Evacuation Drill	
<b>10.7</b>	16:00	17:30	Did you escape the wave? Evacuation Drill, City of Vina Del Mar	Dr. Matías Carvajal, PUCV Alejandra Gubler, CIGIDEN
	17:30	17:45	RETURN TO HOTEL	
<b>10</b>			<b>TUESDAY, 27 AUGUST, DAY 7</b>	
			<b>TRRP ASSESS, PREP, RESP, TsuCat, Country Presentations, CIGIDEN Exhibition</b>	
	8:15	9:00	PICKUP VINA DEL MAR TRANSIT TO SHOA	
	9:00	9:15	Recap and Day Overview	
<b>10.8</b>	9:15	9:45	Evacuation maps when inundation modeling is not possible or practical – Case Study	McCreery
<b>10.9</b>	9:45	10:00	Hazard Assessment - IOC Regional Efforts on Tsunami Seismic Sources - Caribbean, Central America, South China Sea, Tonga Kermadec, Lesser Antilles, South America Colombia-Ecuador, Peru-Chile, New Hebrides/San Cristobal, New Britain meeting outcomes, and upcoming plans	Sifón
<b>10.10</b>	10:00	10:30	TsuCAT (Tsunami Coastal Assessment Tool) - Uses, Limitations. Local scenario uncertainties	McCreery
	10:30	10:45	COFFEE / TEA BREAK	
<b>10.11</b>	10:45	11:15	TR RESP-1 and RESP-2: Making Tsunami Response Plans and Managing Emergency Response - guidance, how-to, and templates.	Kong
<b>2.3</b>	11:15	12:00	Country Presentations (15 min each) - 3 countries, Samoa, Fiji, Nauru	Chile (moderator), Participants

	12:00	12:15	Exhibition: Raising tsunami awareness using projection mapping and interactive visualization of tsunami propagation and inundation, Centro de Investigación para la Gestión Integrada del Riesgo de Desastres (CIGIDEN)	Dr. Rodrigo Cienfuegos Director, CIGIDEN
	12:15	13:30	LUNCH (TW Tools troubleshooting as needed)	
<b>10.11</b>			<b>Tsunami-resistant structures, TRRP PREP, Creating Awareness material</b>	
	13:30	14:00	Tsunami Mitigation: Evacuation when there is no time or high ground. Designing buildings to withstand tsunamis - ASCE 7 2016, International Building Code 2018, and FEMA P-646 rev 3 (2019)	Kong
<b>10.12</b>	14:00	14:45	TR PREP-3 and PREP-4: Building Awareness and Community Preparedness 1 - Strategies and examples	Dr. Marcelo Lagos, Pontificia Universidad Católica de Chile
<b>10.13</b>	14:45	15:15	TR PREP-3: Awareness Learning Activity World Tsunami Awareness Day and Examples, Using online tools such as Canva to create materials	Kong
	15:15	15:30	COFFEE / TEA BREAK	
	15:30	16:30	TR PREP-3: Awareness Learning Activity Create Awareness Material (poster, presentation, video, etc) using Canva or other tools	Lagos, "Country" Teams
<b>10.14</b>	16:30	17:15	Team Sharing: Creating Public Awareness material	Lagos, "Country" Teams, "Judges"
	17:15	18:00	RETURN TO HOTEL	
<b>10 - 12</b>			<b>WEDNESDAY, 28 AUGUST DAY 8</b>	
			<b>TRRP PREP RESP, Exercises, Community Response, TsuCAT</b>	
	8:15	9:00	PICKUP VINA DEL MAR TRANSIT TO SHOA	
	9:00	9:15	Recap and Day Overview	
<b>10.15</b>	9:15	9:30	TR PREP 5: Building Awareness and Community Preparedness 2 - Tsunami Exercises and Drills, Guidance: IOC Tsunami Wave Exercises (IOC MG 58), IOC Community Tsunami Exercise Guideline (IOC MG 86)	Sifón

<b>10.16</b>	9:30	10:00	IOC Exercise Pacific Wave 2024	Margarita Martinez, SENAPRED, Chair, PacWave24 Task Team
<b>10.17</b>	10:00	10:30	TR RESP-1 and PREP-5: Creating Community Response Plans and Conducting Exercises - guidance, how-to, and templates	Kong
	10:30	10:45	COFFEE / TEA BREAK	
<b>10.18</b>	10:45	11:45	Tsunami Exercises, Community Response Plans, and Drills - Chile examples	Martinez
<b>10.19</b>	11:45	12:30	Tsunami Coastal Assessment Tool (TsuCAT). Using TsuCAT for response planning, exercise development. Examples	McCreery, Kong
	12:30	13:45	LUNCH (TW Tools troubleshooting as needed)	
			<b>Country Presentations, Vina del Mar Evacuation Drill Hotwash, Media and Social Media, Tourist, Special Needs and Marine Readiness, ECW-24</b>	
<b>2.3</b>	13:45	14:30	Country Presentations (15 min each) - 3 countries, Solomon Islands, Indonesia, Oman	Chile (moderator), Participants
<b>10.7</b>	14:30	15:15	Did you escape the wave? Evacuation Drill Hotwash	Matías Carvajal, PUCV Alejandra Gubler, CIGIDEN
<b>11.1</b>	15:15	15:45	Improving Response and Managing (reliable and unreliable) Information Flow during an Event: Media and Social Media - Good Practices	SENAPRED, Chile
	15:45	16:00	COFFEE / TEA BREAK	
<b>11.2</b>	16:00	16:45	Tsunami Evacuation: Tourist and Special Needs Population, Marine Sector Readiness examples	Kong
<b>12.1</b>	16:45	17:15	"Exercise Chile Wave 2024 (ECW-24) – Decision-making using PTWC Enhanced Products. EXPLAN: Introduction, Format, Conduct "	McCreery
	17:15	18:00	RETURN TO HOTEL	

<b>12</b>			<b>THURSDAY, 29 AUGUST, DAY 9</b>	
			<b>Exercise Chile Wave 2024 (ECW-24)</b>	
	8:15	9:00	PICKUP VINA DEL MAR TRANSIT TO SHOA	
	9:00	9:15	Recap and Day Overview	
<b>12.2</b>	9:15	9:30	ECW-24 Tsunami Exercise Preparation Guidance - "Country" TWC / TER SOPs, Criteria Tables, Response Plans, Alerting, Media, Evacuation, Cancellation, etc	McCreery, Exercise Controllers
<b>12.3</b>	9:30	10:15	ECW-24Tsunami Exercise Preparation – "Country" TWC / TER SOPs, Criteria Tables, Response Plans, Alerting, Media, Evacuation, Cancellation, etc	"Country" Teams
	10:15	10:30	COFFEE / TEA BREAK	
	10:30	12:00	ECW-24Tsunami Exercise Preparation (cont'd)	"Country" Teams
	12:00	13:15	LUNCH	
<b>12.4</b>	13:15	13:30	ECW-24 Tsunami Exercise - setup and last instruction	McCreery, Exercise Controllers
	13:30	14:00	COFFEE / TEA BREAK	
<b>12.5</b>	14:00	16:15	ECW-24 Tsunami Exercise - Decision-making using PTWC Enhanced Products	"Country" Teams, Exercise Controllers
<b>12.6</b>	16:15	17:00	ECW-24Post-Exercise Evaluation Preparation - Press Conference: Situation Report and Briefing	McCreery, Exercise Controllers
			HOMEWORK - Begin Situation Report and Briefing	
	17:00	17:45	RETURN TO HOTEL	
<b>12 - 14</b>			<b>FRIDAY, 30 AUGUST, DAY 10</b>	
			<b>ECW-24 Press Conference, IOC Tsunami Calendar</b>	
	8:15	9:00	PICKUP VINA DEL MAR TRANSIT TO SHOA	
	9:00	9:15	Recap and Day Overview	
<b>12.6</b>	9:15	10:15	ECW-24 Post-Exercise Evaluation Preparation - Press Conference: Situation Report and Briefing	"Country" Teams
	10:15	10:30	COFFEE / TEA BREAK	

<b>12.7</b>	10:30	11:45	ECW-24 Post-Exercise Evaluation - Press Conference: "Country" summary followed by "Media" / Audience Question-and-Answer	Chile (moderator), "Country" Team reps (TWC, TER), "Media"
<b>13.1</b>	11:45	12:00	2024-25 Calendar: ICG and TOWS Action Items and Priorities	Kong
	12:00	13:15	LUNCH	
			<b>Summary and Next Steps, Logistics Wrap-up, Closing</b>	
<b>13.2</b>	13:15	14:15	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	ITIC, PTWC, All
<b>13.3</b>	14:15	14:30	ITP-TEWS-Chile 2024 Logistics wrap-up	Sifón
	14:30	14:45	COFFEE / TEA BREAK	
<b>14</b>	14:45	15:30	Presentation of Certificates and Closing Ceremony	ITIC, PTWC, SHOA, All
	16:00	16:45	RETURN TO HOTEL	
			<b>Friday - Saturday, 30 - 31 AUGUST</b>	
			<b>Hotel Checkout - Depart for home country</b>	