



**UNESCO - IOC  
INTERNATIONAL TSUNAMI INFORMATION CENTRE (ITIC)**

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

**15-26 September 2025, 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. 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 training 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. Participants will engage in a series of presentations and discussions with the Pacific Tsunami Warning Center (PTWC) and Hawaii technical and emergency agencies (State and County Emergency Operation Centre, University of Hawaii).

Recognizing that local tsunamis remain the most challenging operation for countries, the ITP-TEWS will focus its training as guided by IOC Manual and Guides for warning and emergency response, and evacuation planning (Procedures for Tsunami Warning and Emergency Management (MG 76, 2017), PTWS National Tsunami Warning Center Minimum Competency Levels (2023), PTWS Local-Source Tsunami Response Best Practice (2019), Preparing for Community Tsunami Evacuations: from inundation to evacuation maps, response plans and exercises (MG 82, 2019)). The training will also overview the UNESCO-IOC Tsunami Ready Recognition Programme (MG 74, 2022). A goal of the IOC's Ocean Decade Tsunami Programme is *"make 100% of communities at risk of tsunami prepared for and resilient to tsunamis by 2030."*

During the training course, participants are expected to give a 15-minute presentation on their country's tsunami warning and mitigation system, including their tsunami SOPs and plans for implementing Tsunami Ready or other similar initiatives. Participants will engage in a tsunami evacuation drill to test the viability of evacuation on foot from a local tsunami. On the last two days, a tsunami exercise will be conducted requiring country decision-making and action using national products supplemented by the PTWC Enhanced Products.

**Primary Resource Organisations:**

International Tsunami Information Center

Pacific Tsunami Warning Center

University of Hawaii

Honolulu Dept of Emergency Management, City & County of Honolulu, Oahu, Hawaii, USA

Hawaii State Emergency Management Agency (HI-EMA), Honolulu, Hawaii, USA

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

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

Dr. Laura Kong, Director

Christa von Hillebrandt-Andrade, Deputy Director

ITIC Staff (Tammy Fukuji, Kimberly Maisonet-Gonzalez, Marie Eblé)

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, Dr. Stanley Goosby, Carolina Hincapié-Cárdenas,

Caroline Jackson, 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

SMART Cables

Ceci Rodriguez Cruz, Director, SMART Cable International Programme Office, Hawaii, USA

Hawaii State Emergency Management Agency (HI-EMA), Hawaii, USA

Jack Lee, Operations Chief

Honolulu Department of Emergency Management (DEM), City and County of Honolulu, USA

Jennifer Walter, Deputy Director, Molly Pierce, Public Information Officer

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. Yoshiki Yamazaki, Research Scientist, ORE, SOEST

Dr. Ian Robertson, Professor (retired), Dept of Civil & Environmental Engineering, School of Engineering

University of Hawaii Sea Level Center

Dr. Phil Thompson, Director

Jonathan Ayers, Coastal Geodesy Specialist

Jason Klemm, Sea Level Instrumentation Technician

Chile

Mario Andrés Guerra Vera, Coastal Geologist & Disaster Risk Specialist, Pontificia Universidad Católica de Valparaíso (PUCV), Valparaíso, Chile

Alejandra Gubler, National Research Center for Integrated Natural Disaster Management (CIGIDEN), Instituto de Geografía, Pontificia Universidad Católica de Chile

**FINAL AGENDA**  
(version 26 September 2025)

| <b>Sess<br/>ion</b> | <b>Start<br/>Time</b> | <b>End<br/>Time</b> | <b>Topic</b>  | <b>Location,<br/>Session Chair,<br/>Speaker</b> |
|---------------------|-----------------------|---------------------|---|---|
| <b>1 - 3</b>        |                       |                     | <b>MONDAY, 15 SEPTEMBER, DAY 1</b>  | NOAA Pier 38                                    |
|                     |                       |                     | <b>Opening, Course Overview, Tsunami Early Warning, IOC Tsunami Warning and Mitigation System, Country Presentations</b>  | von Hillebrandt-Andrade                         |
|                     | 8:00                  | 8:15                | PICKUP ALA MOANA HOTEL (AMH, Polynesian Adventures bus - Kimberly to meet group); TRANSIT to NOAA Pier 38 training venue  | Kimberly Maisonet-Gonzalez, ITIC                |
|                     | 8:30                  | 9:00                | Registration  |   |
| <b>1.1</b>          | 9:00                  | 9:40                | Opening Welcome<br>1 Bernardo Aliaga, Head, UNESCO-IOC Tsunami Resilience Section (TSR)<br>2. AJ Reiss, Director, NOAA NWS National Centers for Environmental Prediction, Ocean Prediction Center (NCEP/OPC)<br>3. Capt Carloz Zúñiga, Director, Servicio Hidrográfico y Oceanográfico de la Armada de Chile<br><del>4. Ms Litea Buikoto, Deputy Director, The Pacific Community</del><br>5. Dr. Laura Kong, Director, UNESCO-IOC/NOAA International Tsunami Information Centre<br>6. Dr. Charles McCreery, Director, NOAA NWS Pacific Tsunami Warning Center | IOC, USA, Chile, SPC, ITIC, PTWC                |
| <b>1.2</b>          | 9:40                  | 9:50                | Participant and Trainer Self-introductions (name, country, position, organization)  | All   |
| <b>1.3</b>          | 9:50                  | 10:00               | Programme Logistics – Health and Safety, Building and Foreign Visitor Rules, Local Transportation, Coffee/Tea/ Lunch Breaks, Information Technology Support   | Kong, Tammy Fukuji, ITIC                        |
| <b>1.4</b>          | 10:00                 | 10:15               | Course Overview, Learning Activities, Manuals, Materials, including Awareness and TW Tools, OTGA tsunami courses  | Christa von Hillebrandt-Andrade, ITIC           |
|                     | 10:15                 | 10:45               | Group Photo, COFFEE / TEA BREAK   |   |
| <b>2.1</b>          | 10:45                 | 11:15               | Responding Rapidly and Effectively: Tsunami Warning and Emergency Response Requirements   | Kong  |
| <b>2.2</b>          | 11:15                 | 11:45               | UNESCO IOC Global Tsunami System: Intergovernmental Coordination Groups; Roles of Tsunami National Contacts, Regional Tsunami Service Providers and Tsunami Information Centers, Tsunami Warning Focal Points, National Tsunami Warning Centers<br>HANDOUT - Global TEWS Map  | Charles McCreery, PTWC                          |

|     |       |       |  |  |
|-----|-------|-------|--|--|
| 2.3 | 11:45 | 12:30 | Country Presentations (15 min each) - 3 countries (1-3)  | Countries  |
|     | 12:30 | 13:45 | LUNCH  |  |
|     |       |       | <b>Earthquake and Tsunami Science</b>  | von Hillebrandt-Andrade  |
| 3.1 | 13:45 | 14:30 | What earthquake science you need to know to warn for and respond to tsunami warnings? Earthquake Seismology - what, where, how, when, and damage caused  | Charles McCreery, PTWC   |
|     | 14:30 | 14:45 | COFFEE / TEA BREAK   |  |
| 3.2 | 14:45 | 15:30 | 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                       | Kong   |
|     | 15:30 | 15:35 | Next Day Announcements   | ITIC   |
|     | 15:35 | 15:45 | Clean-up   | All  |
|     | 15:45 | 16:00 | RETURN TO HOTEL  | Maisonet-Gonzalez  |
|     |       |       |  |  |
| 4-5 |       |       | <b>TUESDAY, 16 SEPTEMBER, DAY 2</b>  | NOAA Pier 38   |
|     |       |       | <b>TWC and TER Overviews, Lessons Learned by Hawaii and elsewhere from past tsunamis, Country Presentations</b>  | von Hillebrandt-Andrade  |
|     | 8:15  | 8:30  | PICKUP ALA MOANA HOTEL (AMH, Polynesian Adventures bus - Kimberly to meet group); TRANSIT to NOAA Pier 38 training venue   | Maisonet-Gonzalez  |
|     | 8:30  | 8:45  | Day Overview   | ITIC   |
| 4.1 | 8:45  | 9:15  | 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   |
| 4.2 | 9:15  | 9:45  | Tsunami Emergency Response Overview: What do TER agencies provide to the Public? Challenges in Alerting, Evacuation, Safe-to-Return (All-Clear), and Preparedness                                    | von Hillebrandt-Andrade  |
| 4.3 | 9:45  | 10:45 | Lessons Learned from Past Tsunamis - Warning and Response<br>29 July 225 Kamchatka Tsunami<br>Hawaii 1946, 1986, 1994<br><br>HANDOUT   | PTWC, ITIC<br>Kong, Hawaii (Hawaii State EMA, Jack Lee; Honolulu Dept of Emergency Management, Jennifer Walter), All |
|     | 10:45 | 11:00 | COFFEE / TEA BREAK   |  |

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| 4.4 | 11:00 | 11:30 | Lessons Learned from Past Tsunamis - Warning and Response highlights, including<br>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; Kaikoura NZ 2016, Palu and Anak Krakatau 2018, Tonga 2022, Honduras 2025<br><br>HANDOUT | PTWC, ITIC, All<br><br>DID NOT DO |
| 2.3 | 11:30 | 12:00 | Country Presentations (15 min each) - 2 countries (4-5)   | Countries                         |
|     | 12:00 | 13:15 | LUNCH   |                                   |
|     |       |       | <b>Tsunami Warning Center and Emergency Response (TWC/TER) Standard Operating Procedures (SOP), PTWC SOPs, TWC Topics - Earthquake Source Characterization</b>  | von Hillebrandt-Andrade           |
| 5.1 | 13:15 | 13:45 | 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   | von Hillebrandt-Andrade           |
| 5.2 | 13:45 | 14:15 | Pacific Tsunami Warning Center:<br>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                         |
|     | 14:15 | 14:30 | COFFEE / TEA BREAK  |                                   |
| 5.3 | 14:30 | 15:00 | TWC Operations: Real-time Earthquake Detection and Fast Source Characterization, Methods and Limitations: Locating Earthquakes, Estimating Magnitudes   | Kong                              |
| 5.4 | 15:00 | 15:30 | TWC Operations: Real-time Earthquake Detection and Fast Source Characterization, Methods and Limitations: Determining Fault Mechanisms, Using GNSS/GPS to constrain co-seismic deformation  | Weinstein                         |
|     | 15:30 | 15:35 | Next Day Announcements  | ITIC                              |
|     | 15:35 | 15:45 | Clean-up  | All                               |
|     | 15:45 | 16:00 | RETURN TO HOTEL   | Maisonet-Gonzalez                 |
|     |       |       |   |                                   |

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| 5-6 |       |       | <b>WEDNESDAY, 17 SEPTEMBER, DAY 3</b>   | NOAA Pier 38                    |
|     |       |       | <b>PTWC Enhanced Products, Travel time and Wave Amplitude Forecasting, NTWC and TER Guidance, Country Presentations</b>   | von Hillebrandt-Andrade         |
|     | 8:15  | 8:30  | PICKUP ALA MOANA HOTEL (AMH, Polynesian Adventures bus); TRANSIT to NOAA Pier 38 training venue   | Maisonet-Gonzalez               |
|     | 8:30  | 8:45  | Day Overview  | ITIC                            |
| 5.5 | 8:45  | 9:30  | Pacific Tsunami Warning Center 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 (videos and discussion) | Kong, Dailin Wang, PTWC         |
| 5.6 | 9:30  | 10:00 | PTWC Operations: Travel Time Forecasting – Methods, Limitations, and Uncertainties  | Wang                            |
|     | 10:00 | 10:15 | COFFEE / TEA BREAK  |                                 |
| 5.7 | 10:15 | 11:00 | PTWC Operations: Wave Amplitude Forecasting – Methods (ATFM, SIFT, RIFT), Limitations, Uncertainties and Sensitivities  | Wang                            |
| 5.8 | 11:00 | 11:15 | 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                            |
| 2.3 | 11:15 | 12:00 | Country Presentations (15 min each) - 3 countries (6-8)   | Countries                       |
|     | 12:00 | 13:15 | LUNCH   |                                 |
|     |       |       | <b>Tsunami Warning and Mitigation Systems (TWMS) - Hawaii example, Hazard Assessment</b>  | von Hillebrandt-Andrade         |
| 6.1 | 13:15 | 13:45 | Tsunami Warning and Mitigation Systems - Hawaii example   | Kong                            |
| 6.2 | 13:45 | 14:30 | Tsunami Hazard Risk Assessment: Modeling and Mapping of Tsunami for Inundation and Land Evacuation - Hawaii example   | Kwok Fai Cheung, Univ of Hawaii |
|     | 14:30 | 14:45 | COFFEE / TEA BREAK  |                                 |
| 6.3 | 14:45 | 15:30 | Tsunami Hazard Risk Assessment: Modeling and Mapping of Tsunami for Port and Harbor Planning and Response - Hawaii example  | Cheung                          |
|     | 15:30 | 15:35 | Next Day Announcements  | ITIC                            |
|     | 15:35 | 15:45 | Clean-up  | All                             |
|     | 15:45 | 16:00 | RETURN TO HOTEL   | Maisonet-Gonzalez               |

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|-----|-------|-------|---|--|
| 7-8 |       |       | THURSDAY, 18 SEPTEMBER, DAY 4   | DEM, NOAA IRC                                  |
|     |       |       | Hawaii TWMS: City and County of Honolulu, Dept of Emergency Management visit  | Laura Kong                                     |
|     | 8:15  | 8:45  | PICKUP ALA MOANA HOTEL (AMH, Polynesian Adventures bus); TRANSIT to Honolulu DEM  | Maisonet-Gonzalez                              |
| 7.1 | 9:00  | 10:45 | Visit Honolulu Department of Emergency Management (DEM), Emergency Operations Center: County Response to PTWC Tsunami Products, Tsunami Evacuation (vertical), Alert Dissemination / Siren System, Signage, Preparedness and Mitigation, including Tourist and Special needs population readiness   | Honolulu DEM                                   |
|     | 10:45 | 11:15 | TRANSIT to JBPHH Pass and ID Office   |  |
|     | 11:15 | 12:15 | Pick JBPHH Base Passes  | Behnken, Maisonet-Gonzalez                     |
|     | 12:15 | 12:30 | TRANSIT to Moanalua Shopping Center   |  |
|     | 12:30 | 13:30 | LUNCH, Moanalua Shopping Center (on your own). <a href="https://www.moanalushoppingcenter.com/stores-restaurants">https://www.moanalushoppingcenter.com/stores-restaurants</a>  |  |
|     | 13:30 | 13:45 | TRANSIT to IRC  |  |
|     |       |       | Country Presentations, TWC operations and decision support tools  | Laura Kong                                     |
| 8.1 | 13:45 | 14:00 | Welcome to IRC, Group Photo<br>Science on Sphere - Tsunami animations   | Tom Evans, Acting Director, NWS Pacific Region |
| 2.3 | 14:00 | 15:30 | Country Presentations (15 min each) - 6 countries (9-14)  | Countries                                      |
| 8.2 | 15:30 | 17:20 | 2 Groups, 2 Sessions, Switch after 45 minutes   |  |
|     | 15:30 | 15:45 | Instructions and switch to rooms<br>COFFEE TEA BREAK  |  |
| 8.2 | 15:45 | 16:30 | <del>2 Group (switch after 45 minutes):</del><br><del>Group 1: PTWC visit</del><br><del>Group 2: Rm 1377</del><br><br>Delays and Groups could not split because of M7.8 Kamchatka event<br><br>Visit 1- ITIC Library<br>Tsunami Warning Decision-Support Tools -<br>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) | ITIC. Kong, Fukuji                             |

|      |       |       |   |   |
|------|-------|-------|---|---|
|      |       |       | 2. Tide Tool Overview<br>3. Install and use Tsunami Warning Decision-Support Tools (CISN, Tide Tool, TTT)<br>Hand tool tools and tutorials - followup on Friday<br><br>Visit 2 - PTWC<br>Data networks and acquisition, monitoring, analysis, quality-control/health status, communication and dissemination, redundancy, contingency/backup, etc<br>Demonstration. PTWC Operational Tools (SIFT, RIFT, Wphs CMT)<br>What happened today? M7.8 Kamchatka Tsunami Threat and Hawaii Tsunami Information Statement (with additional monitoring for Kahului) | PTWC<br>Stuart Weinstein<br>Dailin Wang |
|      | 16:30 | 16:35 | <del>Switch</del> – ITIC, PTWC  |   |
| 8.2  | 16:35 | 17:20 | <del>Switch:</del><br>Group 1 to ITIC Library and Conference<br>Group 2 to PTWC   |   |
|      | 17:20 | 17:25 | Return to Rm 1377<br>Next Day Announcements   | ITIC                                    |
|      | 17:30 | 18:15 | RETURN TO HOTEL   | Maisonet-Gonzalez                       |
|      |       |       |   |   |
| 9-10 |       |       | <b>FRIDAY, 19 SEPTEMBER, DAY 5</b>  | HI-EMA, NOAA IRC                        |
|      |       |       | <b>Hawaii TWMS: Hawaii State Emergency Management Agency visit</b>  | Laura Kong                              |
|      | 8:15  | 8:30  | PICKUP ALA MOANA HOTEL (AMH, Polynesian Adventures bus); TRANSIT to Hawaii State Emergency Management Agency (HI-EMA), Diamond Head Crater  | Maisonet-Gonzalez, ITIC                 |
| 9.1  | 8:30  | 10:30 | Visit Hawaii State Emergency Management Agency (HI-EMA), Emergency Operations Center, State Warning Point: Response to PTWC Tsunami Products, Hawaii Emergency Alert System (EAS) and Siren System, Preparedness and Mitigation   | Jack Lee, Keli'i Padello, HI-EMA        |
|      | 10:30 | 11:00 | TRANSIT to Moanalua Shopping Center   |   |
|      | 11:00 | 12:00 | LUNCH, Moanalua Shopping Center (on your own).<br><a href="https://www.moanalushoppingcenter.com/stores-restaurants">https://www.moanalushoppingcenter.com/stores-restaurants</a>   |   |
|      | 12:00 | 12:15 | TRANSIT to IRC  |   |
|      |       |       | <b>Country Presentations, TWC Operations - Sea Level and Tsunami Monitoring, NTWC Competencies, Small group SOP discussion</b>  | Laura Kong                              |
| 2.3  | 12:15 | 13:15 | Country Presentations (15 min each) - 4 countries (15-18)   | Countries                               |



|              |       |       |   |   |
|--------------|-------|-------|---|---|
| <b>10.1</b>  | 13:15 | 13:45 | TWC Operations: Sea Level Monitoring - Methods, Instruments, Limitations, Challenges  | David Walsh, PTWC   |
| <b>10.2</b>  | 13:45 | 14:15 | Improving Tsunami Warning - Emerging Tools and Technologies: ITU/WMO/IOC SMART Cables for Observing the Ocean   | Ceci Rodrigues, SMART Cables International Programme Office                         |
| <b>10.3</b>  | 14:15 | 14:30 | NTWC Competencies (PTWS, 2023)  | Kong  |
| <b>10.4</b>  | 14:30 | 15:30 | Session 1 (Sep 19), Session 2 (Sep 24):<br><del>Review &amp; improve your Review &amp; improve your TWC and TER SOPs / Checklists. Small group discussion and question and answer. Reference for Day 9</del><br><del>Exercise Hawaii Wave 2025 –</del><br><del>Week 1 presentations (countries 1-18)</del><br><del>Week 2 presentations (countries 19-23)</del><br>Follow-ups and Q&A - ITIC and PTWC<br>1. TW Tools<br><br>2. PTWC follow-on | ITIC<br>Tammy Fukuji,<br>Laura Kong<br><br>PTWC<br>Dailin Wang,<br>Stuart Weinstein |
|              |       |       | HOMEWORK - Review & improve country TWC SOPs / Checklists (local/regional/distant threat)<br>Reference for Day 9 EHW-25 exercise  |   |
|              | 15:30 | 15:45 | COFFEE / TEA BREAK  |   |
| <b>10.5</b>  | 15:45 | 17:00 | Rm 1564<br>Sea Level Monitoring for Tsunamis<br>a. University of Hawaii Sea Level Center<br>b. Sea Level Station Instrumentation - 'show-and-tell'  | Phil Thompson, Jason Klem, Jonathan Avery, Univ of Hawaii Sea Level Center (UHSLC)  |
|              | 17:00 | 17:15 | Week 1 Recap, Week 2 Activities   | ITIC  |
|              | 17:30 | 18:15 | RETURN TO HOTEL   | Maisonet-Gonzalez   |
|              |       |       | <b>SATURDAY-SUNDAY, 20-21 SEPTEMBER - FREE DAYS</b>   |   |
| <b>11-13</b> |       |       | <b>MONDAY, 22 SEPTEMBER, DAY 6</b>  | NOAA Pier 38, Ala Moana area  |
|              |       |       | <b>Tsunami Emergency Response (TER) SOPs, Local Source SOP, Communications, Tsunami Event Flow</b>  | von Hillebrandt-Andrade   |
|              | 8:15  | 8:30  | PICKUP ALA MOANA HOTEL (AMH, Polynesian Adventures bus); TRANSIT to NOAA Pier 38 training venue   | Maisonet-Gonzalez   |

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|-------------|-------|-------|---|--|
|             |       |       | <i>TW Tools, TsuCAT troubleshooting as needed Week 2</i>  |  |
|             | 8:30  | 8:45  | Day Overview  | ITIC                                     |
| <b>11.1</b> | 8:45  | 9:15  | 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)?) | von Hillebrandt-Andrade                  |
| <b>11.2</b> | 9:15  | 9:30  | Local-Source Tsunami Response Best Practice (approved at ICG/PTWS-XXVIII, 2019)   | Kong                                     |
| <b>11.3</b> | 9:30  | 10:15 | Emergency communications - Robustness, reliability, redundancy. Technologies for the downstream transmission of warnings to communities. Case Study: Palu, Indonesia tsunami, 2018  | Kong, Ardito Kodijat, IOTIC              |
|             | 10:15 | 10:30 | COFFEE / TEA BREAK  |  |
| <b>11.4</b> | 10:30 | 11:00 | Improving Response and Managing (reliable and unreliable) Information Flow during an Event: Media and Social Media - Good Practices   | Kodijat                                  |
| <b>11.5</b> | 11:00 | 12:00 | Learning Activity: Improving Response – Tsunami Warning and Emergency Response - What happens during an event?  | ITIC, PTWC                               |
|             |       |       | HOMEWORK - Review & improve country TER SOPs / Checklists (local/regional/distant threat) and Media SOP. Reference for Day 9 EHW-25 exercise  |  |
|             | 12:00 | 13:15 | LUNCH ( <i>TWTools, TsuCAT troubleshooting as needed</i> )  |  |
|             |       |       | <b>UNESCO-IOC Tsunami Ready, Hazard Assessment</b>  | von Hillebrandt-Andrade                  |
| <b>12.1</b> | 13:15 | 13:45 | Implementing Tsunami Ready programs to recognize community readiness - UNESCO-IOC Tsunami Ready Recognition Programme - Guidelines, Recognition Process (IOC MG 74)   | Kodijat                                  |
| <b>12.2</b> | 13:45 | 14:15 | 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)  | von Hillebrandt-Andrade                  |
| <b>13.1</b> | 14:15 | 14:45 | TR ASSESS-1: Tsunami Hazard Risk Assessment - Data Requirements, Methods, Techniques. Case Study - Using ComMIT / MOST tsunami model for hazard assessment  | Marie Eble, ITIC, Chris Moore, NOAA PMEL |
|             | 14:45 | 15:00 | COFFEE / TEA BREAK  |  |
| <b>13.2</b> | 15:00 | 15:30 | TsuCAT (Tsunami Coastal Assessment Tool) - Uses, Limitations. Local scenario uncertainties  | Kong, Moore                              |
| <b>13.3</b> | 15:30 | 15:35 | Next Day Announcements<br>Evac-AMWave25 Information   | ITIC                                     |

|              |       |       |   |   |
|--------------|-------|-------|---|---|
|              |       |       |   | Mario Andrés Guerra Vera, PUCV Chile  |
|              | 15:35 | 15:45 | Clean-up  | All   |
|              | 15:45 | 16:00 | RETURN TO HOTEL   | Maisonet-Gonzalez   |
|              |       |       |   |   |
| <b>13-14</b> |       |       | <b>TUESDAY, 23 SEPTEMBER, DAY 7</b>   | NOAA Pier 38  |
|              |       |       | <b>Country Presentations, Hazard Assessment, Evacuation Planning</b>  | Kodijat   |
|              | 8:15  | 8:30  | PICKUP ALA MOANA HOTEL (AMH, Polynesian Adventures bus); TRANSIT to NOAA Pier 38 training venue   | Maisonet-Gonzalez   |
|              | 8:30  | 8:45  | Day / Week Overview   | ITIC  |
| <b>2.3</b>   | 8:45  | 10:00 | Country Presentations (15 min each) - 5 countries (13-17)   | Countries   |
| <b>13.4</b>  | 10:00 | 10:15 | 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 HANDOUT  | Kong  |
| <b>13.5</b>  | 10:15 | 10:30 | Hazard Assessment - Role of Tsunami Deposits, Chile and Cascadia Examples   | Guerra Vera   |
|              | 10:30 | 10:45 | COFFEE / TEA BREAK  |   |
| <b>14.1</b>  | 10:45 | 11:15 | TR PREP-1: Making Community-based Evacuation Maps, Routes, and Signage - guidance CARIBE-EWS Tsunami Signage Inventory  | Kodijat   |
| <b>14.2</b>  | 11:15 | 11:45 | Evacuation maps when inundation modeling is not possible or practical - Case Study - Caribbean example  | von Hillebrandt-Andrade   |
| <b>14.3</b>  | 11:45 | 12:30 | Did you escape the wave? Evacuation Ala Moana Wave 2025, Evac-AMWave25<br>1 1. Overview - What, Motivation, Goals, Conduct, Post-exercise Evaluation - Kong, von Hillebrandt-Andrade<br>2. Exercise Plan (EXPLAN AMWave25) - Conduct Details, Groups, How, Where, When, Instructions and Preparations - Guerra Vera<br>3. Evac-AMWave25 Evacuation Plan ('paper and pencil' or electronic - Honolulu Evacuation Map online / Google Map) (25 min)- Guerra Vera, Jackson | AMWave25 Team (Guerra Vera, Caroline Jackson (PTWC), von Hillebrandt-Andrade, Kong) |
|              | 12:30 | 13:45 | LUNCH ( <i>TWTools troubleshooting as needed</i> )  |   |
|              |       |       | <b>Tsunami-resistant Building Design, Did you escape the wave?</b>  | Kodijat   |
| <b>14.4</b>  | 13:45 | 14:45 | 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)   | Ian Robertson, Univ of Hawaii   |
|              | 14:45 | 15:00 | COFFEE / TEA BREAK  |   |

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| 14.5  | 15:00       | 15:15 | Did you escape the wave? Ala Moana Tsunami Evacuation Drill (Evac-AMWave25) - Final Instructions  | AMWave25 Team  |
|       | 15:15       | 15:45 | Clean up, Return Conference Room to original plan<br>Bring Lunch on Wed and Thurs (NOAA IRC)  |  |
|       | 15:45       | 16:15 | Transit to Ala Moana for Evacuation Drill<br>Wear your Tsunami Ready cap!   |  |
| 14.5  | About 17:00 | 17:30 | Did you escape the wave? Evacuation Ala Moana Wave 2025 (Evac-AMWave25)   | All  |
|       | 17:00       | 18:00 | Congratulations get-together (optional)   | All  |
|       | 18:00       | 18:00 | RETURN TO HOTEL   | Maisonet-Gonzalez  |
| 15-16 |             |       | <b>WEDNESDAY, 24 SEPTEMBER, DAY 8</b>   | NOAA IRC   |
|       |             |       | <b>Tsunami Response Plans, Awareness, Exercises</b>   | Kodijat  |
|       | 8:15        | 8:45  | PICKUP ALA MOANA HOTEL (AMH, Polynesian Adventures bus); TRANSIT to NOAA IRC training venue   | Maisonet-Gonzalez  |
|       | 8:50        | 9:00  | Day Overview  | ITIC   |
| 15.1  | 9:00        | 9:30  | TR RESP-1 and RESP-2: Making Tsunami Response Plans and Managing Emergency Response - guidance, how-to, and templates   | Kong   |
| 15.2  | 9:30        | 10:00 | TR PREP-3 and PREP-4: Increasing Awareness - 1. Strategies and examples, World Tsunami Awareness Day, and IOTIC examples, 2. ITIC materials, 3.Using online tools such as Canva to create materials         | Kodijat, von Hillebrandt-Andrade, Maisonet-Gonzalez      |
| 2.3   | 10:00       | 10:30 | Country Presentations (15 min each) - 2 countries (18-19)   | Countries  |
|       | 10:30       | 10:45 | COFFEE / TEA BREAK  |  |
| 15.3  | 10:45       | 11:15 | TR PREP-5: Increasing Preparedness - Tsunami Exercises and Drills, Guidance: IOC Tsunami Wave Exercises (IOC MG 58), IOC Community Tsunami Exercise Guideline (IOC MG 86) - guidance, how-to, and templates | Kodijat, Hillebrandt-Andrade                             |
| 15.4  | 11:15       | 11:45 | IOC Exercises: PACWAVE, CARIBE WAVE, IOWAVE   | Kong, Hillebrandt-Andrade, Maisonet-Gonzalez<br>Kodijat, |
| 2.3   | 11:45       | 12:30 | Country Presentations (15 min each) - 3 countries (20-22)   | Countries  |
|       | 12:30       | 13:30 | LUNCH (TWTools, TsuCAT troubleshooting as needed)   |  |
|       |             |       | <b>Tourists and Special Needs Populations, Marine Readiness, Small group SOP discussion, RUNAMI Board Game</b>  | Kodijat  |

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| 15.5 | 13:30 | 14:00 | Tsunami Evacuation: Tourist and Special Needs Population  | Kong, von Hillebrandt-Andrade   |
| 15.6 | 14:00 | 14:30 | Marine Sector Readiness - US and international resources, Japan Ports and Harbors SOPs  | Kong  |
|      | 14:30 | 14:45 | COFFEE / TEA BREAK  |   |
| 16.1 | 14:45 | 15:45 | <p>Session 1 (Sep 19), Session 2 (Sep 24): Review &amp; improve your TWC and TER SOPs / Checklists. Small group discussion and question-and-answer. Reference for Day 9 Exercise Hawaii Wave 2025</p> <p>Week 1 presentations (countries 1-12)</p> <p>Week 2 presentations (countries 13-22)</p> <p>Choose 2 of 3 sessions. Switch after 30 min</p> <p>1. PTWC Operations - Stanley Goosby, Carolina Hincapié-Cárdenas</p> <p>2. Tsunami Ready - von Hillebrandt-Andrade, Kodijat</p> <p>3. TW Tools, including TsuCAT - Fukuji, Chris Moore, Kong, Weinstein</p> | <p>PTWC, ITIC</p> <p>PTWC Conference Rm</p> <p>ITIC Library</p> <p>ITIC Conference Rm</p> |
| 16.2 | 15:45 | 16:45 | <p>RUNAMI, Tsunami Ready board game - instruction and playing. 5 tables</p> <p>Facilitators: Maisonet-Gonzalez, Fahar Tri Haryanto, Doreen Lugemalila Ikula, Eble,</p>  | Kodijat, All  |
|      |       |       | HOMEWORK - Review & improve country TWC and TER SOPs / Checklists (local/regional/distant threat) and Media SOP. Reference for Day 9 EHW-25 exercise  |   |
|      | 16:45 | 16:50 | Next Day Announcements  | ITIC  |
|      | 17:00 | 17:45 | RETURN TO HOTEL   | Maisonet-Gonzalez   |
| 17   |       |       | <b>THURSDAY, 25 SEPTEMBER, DAY 9</b>  | NOAA IRC  |
|      |       |       | <b>Exercise Hawaii Wave 2025 (EHW-25)</b>   | Kong  |
|      | 8:15  | 8:45  | PICKUP ALA MOANA HOTEL (AMH, Polynesian Adventures bus); TRANSIT to NOAA IRC training venue   | Maisonet-Gonzalez   |
|      | 8:50  | 9:00  | Day Overview  | ITIC  |
| 17.1 | 9:00  | 9:30  | Exercise Hawaii Wave 2025 (EHW-25) Tsunami Exercise, Decision-making using PTWC Enhanced Products - Exercise Plan (EXPLAN EHW-25): Introduction, Format, Conduct  | EHW-25 Team (Hincapié-Cárdenas, Goosby, Kong, von Hillebrandt-Andrade, McCreery)          |

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| 17.2  | 9:30  | 10:00 | EHW-25 Tsunami Exercise Preparation Guidance - "Country" TWC / TER SOPs, Criteria Tables, Response Plans, Alerting, Media, Evacuation, Cancellation, etc | EHW-25 Team  |
|       | 10:00 | 10:15 | COFFEE / TEA BREAK   |  |
| 17.3  | 10:15 | 12:00 | EHW-25 Tsunami Exercise Preparation - "Country" TWC / TER SOPs, Criteria Tables, Response Plans, Alerting, Media, Evacuation, Cancellation, etc          | "Country" Teams  |
|       | 12:00 | 13:15 | LUNCH  |  |
|       |       |       | <b>EHW-25</b>  | Kong   |
| 17.4  | 13:15 | 13:45 | EHW-25 Tsunami Exercise - setup and last instruction   | EHW-25 Controllers   |
| 17.5  | 13:45 | 16:00 | EHW-25 Tsunami Exercise - Decision-making using PTWC Enhanced Products   | "Country" Teams, EHW-25 Controllers and Simulators                               |
|       | 16:00 | 16:15 | COFFEE / TEA BREAK   |  |
| 17.6  | 16:15 | 16:45 | EHW-25 Post-Exercise Evaluation Preparation - Press Conference: Situation Report and Briefing  | EHW-25 Team, "Country" Teams   |
|       |       |       | HOMEWORK - Finish Situation Report and Briefing  |  |
|       | 16:45 | 16:50 | Next Day Announcements   | ITIC   |
|       | 17:00 | 17:45 | RETURN TO HOTEL  | Maisonet-Gonzalez  |
| 18-20 |       |       | <b>FRIDAY, 26 SEPTEMBER, DAY 10</b>  | Rm 1377, NOAA IRC Auditorium   |
|       |       |       | <b>Awareness Sharing, Evacuation Drill Hotwash, EHW-25 Press Conference, ITP Logistics wrap-up</b>   | von Hillebrandt-Andrade  |
|       | 8:15  | 8:45  | PICKUP ALA MOANA HOTEL (AMH, Polynesian Adventures bus); TRANSIT to NOAA IRC training venue  | Maisonet-Gonzalez  |
|       | 8:50  | 9:00  | Day Overview   | ITIC   |
| 18.1  | 9:00  | 9:30  | EHW-25 Post-Exercise Evaluation Preparation - Press Conference: Situation Report and Briefing Rm 1377  | "Country" Teams  |
| 18.2  | 9:30  | 10:30 | Evacuation AMWave25 Hotwash (Did you escape the wave?)   | AMWave25 Team  |
|       | 10:30 | 10:45 | COFFEE / TEA BREAK   |  |
| 18.3  | 10:45 | 11:45 | EHW-25 Tsunami Exercise Hotwash : "Country" brief followed by and Press Conference ( "Media" / Audience Question-and-Answer)                             | Kodijat, Kong, "Country" Team representatives (TWC and TER), EHW25 Team, "Media" |
| 18.4  | 11:45 | 12:00 | ITP-Hawaii 2025 Logistics wrap-up<br>ITP-TEWS-Hawaii 2025 Evaluation (due 3 Oct 2025)  | Fukuji   |

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|             |       |       |  | von Hillebrandt-Andrade                |
|             | 12:00 | 13:30 | LUNCH CELEBRATION  | All, IRC 3rd Floor Lanai               |
|             |       |       | <b>UN Ocean Decade, Calendar, Summary, Closing</b>   | Kong                                   |
| <b>19.1</b> | 13:30 | 14:00 | UN Ocean Decade Tsunami Programme  | Kodijat, Kong                          |
| <b>19.2</b> | 14:00 | 14:15 | 2025-26 Calendar: ICG and TOWS WG Action Items and Priorities (Global, PTWS, CARIBE-EWS, IOTWMS)   | Kong, von Hillebrandt-Andrade, Kodijat |
| <b>19.3</b> | 14:15 | 15:00 | Summary Discussion (Way Forward, Next Steps, Gaps and Needs): UNESCO IOC Tsunami Ready, World Tsunami Awareness Day, UN Ocean Decade Tsunami Programme | ITIC, PTWC, IOTIC, All                 |
|             | 15:00 | 15:15 | COFFEE / TEA BREAK   |  |
| <b>20</b>   | 15:15 | 16:15 | Presentation of Certificates and Closing Ceremony  | IOC/IOTIC, Chile SHOA, PTWC, ITIC      |
|             | 17:00 | 17:45 | RETURN TO HOTEL  | Maisonet-Gonzalez                      |
|             |       |       |  |  |
|             |       |       | <b>Friday - Saturday, 26-27 September</b>  |  |
|             |       |       | <b>Hotel Checkout - Depart for home country</b>  |  |