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PTWS Minimum Competencies for National Tsunami Warning Centers (2023)

2024-27 ITIC Training Pilot

PROGRESS UPDATE MARCH 2026

Laura Kong, ITIC Director

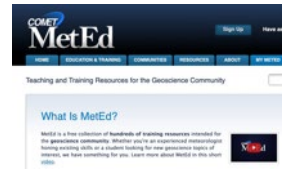
UNESCO-IOC Tsunami Courses

- **ITIC is OTGA Specialized Training Center for Tsunamis**
- **ITIC STC courses collaborative with IOC Tsunami Programme**
  (Tsunami Resilience Section, TSR, Head Bernardo Aliaga)
- **Course names start with UNESCO-IOC xxx**
- **Self-paced, independent, no trainer interaction**
  - Existing
    1. Tsunami Awareness (2024)
    2. Tsunami Ready (2025)

- **Hybrid and/or In-person**
  - In-Progress (2024-2027)
    1. Tsunami Warning Center Minimum Staff Competencies

PTWS NTWC Minimum Staff Competencies Training - Pilot

- **In 2023, PTWS approved Minimum Competency Levels, framework, training required for NTWC Operations Staff**
- **In 2024, ITIC proposed to pilot TWC Minimum Staff Competencies Training**
  - Create training with advanced TWC country partners, TSPs
  - Project Team: Tony Elliott (ret IOTWMS, SOPs), Ken Gledhill (ret NZ), Hannah Weinstein (former PTWC)
    Funding: US funding, IOC Ocean Training Interns (2024, Tonga Met, Indonesia BMKG)
- **Series of courses - from self-paced to in-person housed under OTGA**
  - In order to take next Course, must pass previous Course.
    Pre-requisites: UNESCO-IOC Tsunami Awareness and Tsunami Ready
  - Each course has pre-test, in-course activities and knowledge checks, post-test (graded, 70% correct to advance to next course)
  - Modules (individual OTGA courses, or US COMET MetEd courses)
    1. Core Science (multiple Lessons)
    2. Core Operations (multiple Lessons)
  - Final training will be in-person (3-4 weeks at ITIC/PTWC)



Progress – OTGA platform

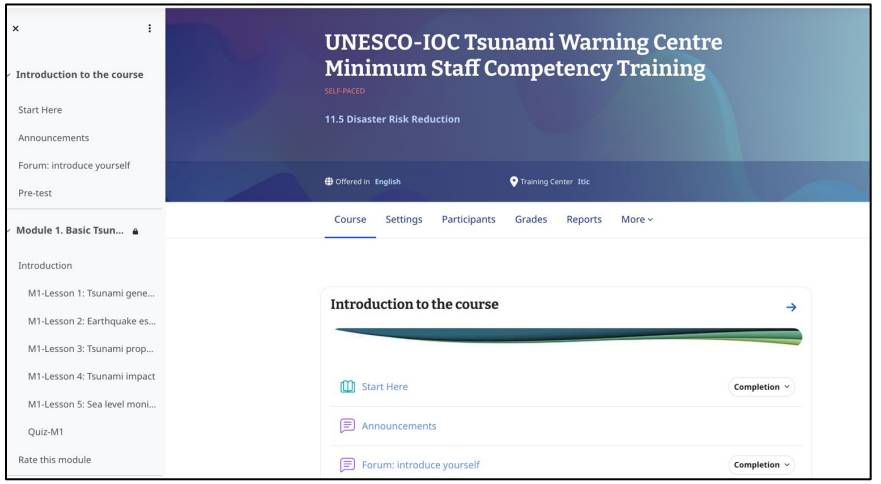
ITIC team is lead, implement in OTGA

1. **Pre-Req: Tsunami Awareness, Tsunami Ready – Live 2025**

2. **Core Earthquake Source knowledge –**
   Undergoing editing and formatting, **Complete Q2 2026**
   - Material gathered from US COMET, AU BOM and GA, USGS, IRIS, OTGA training modules
   - Covers: Plate tectonics, Fault types, EQ parameters, EQ magnitude types, intensity, Beachball diagrams, Tsunamigenic EQs

3. **Core Tsunami Science knowledge –**
   Undergoing editing and formating, **Complete Q2 2026**
   - Based on AU BOM training course supplemented by material from AU GA, OTGA Tsunami Awareness, US COMET and other sources as needed.
   - Focus on job requirements of TWC staff, i.e., on science needed to support TWC operational decision-making.

4. **Core Tsunami Forecasting knowledge – Planned, Q2-3, 2026**
   Use existing ComMIT materials



Progress – US MetEd / COMET platform

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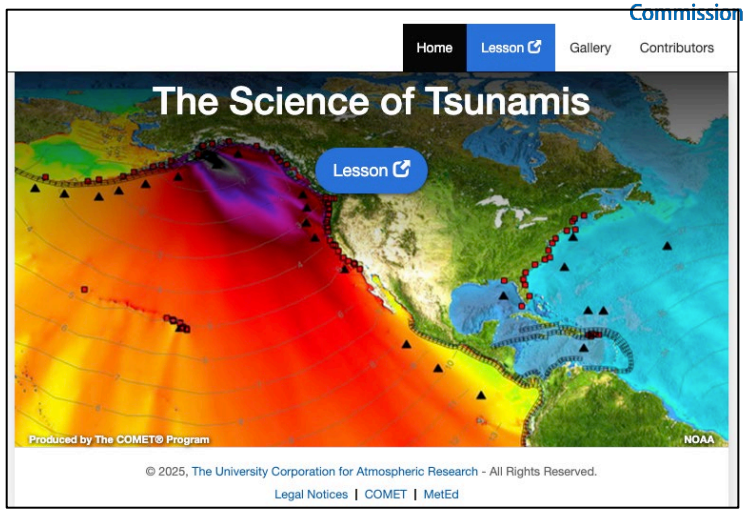
ITIC team working with COMET team, implement in MetEd

1. Update existing module: "The Science of Tsunamis" – Live Feb 2026

- Course is applicable for International and US audiences
- Updates previous version Dec 2017)
- Include recent events
- 2018 Palu landslide tsunami
- 2018 Krakatau volcanic tsunami
- 2022 Hunga Tonga volcanic tsunami
- 2025 Kuril Kamchatka EQ and tsunami

6 Modules:
Introduction, Generation, Initiation, Propagation, Inundation, Long-term effects



https://www.comet.ucar.edu/course-info-science-tsunamis

2. Create new module: NTWC Decision-making: "Communicating Threats and Impacts during Tsunami Events" – Complete Q2 2026

Follow COMET's US course (domestic messages), but replaces with PTWC PTWS Text and Enhanced Forecast Products, with NWPTAC where appropriate (SW Pacific scenario)

PTWS NTWC Minimum Staff Competencies Training - Pilot

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International Tsunami Information Center

Self-paced, online ..... => Hybrid ..... => In-person

Prerequisites	Core Science	Core Operations	Decision Support Tools	COMET Communicating Threats & Impacts	TWC SOP Training	Hands-on training
• Tsunami Awareness • Tsunami Ready	Knowledge • Tsunami science (OTGA,COMET) • Earthquake science • Other non-seismic sources • Tsunami Forecasting **Source material:** • AU BOM, GA • PTWC • USGS • Others	Procedures • Understand and use TSP messages and products • Perform NTWC core activities **Source material**: • ITIC SOP trainings • IOC M&G 76 (SOPs) • PTWC products training videos • NWPTAC, SCSTAC, CATAC	• CISN • Tidetool • IOC SLMF • Websites • TTT • TsuCAT • Others **Source material**: • ITIC, IOC • NOAA • USGS • Others	• Putting core science and operational knowledge into practice **Source material:** • Adapt for international: COMET MetEd Module on NTWC Operations decision-making	• Practice SOPs using TSP products • Review common and uncommon scenarios • Design/conduct of exercises • Advising DMO and public **Source material:** • IOC M&G 76 • IOC M&Gs 58, 86 (Exercises) • IOC MG 82 (inundation, evacuation)	• Cohort of 4-6 from PICT • Must have completed all pre-requisite courses and hybrid training • Lectures & hands-on TWC operation practicums • Observing PTWC duty staff activities • Simulated Event Exercises

2026 – 2027 workplan

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1. Complete Core Science modules – by Q2-3 2026
2. Convert in-person (Core Operations / Decision Support Tools / TWC SOPs) training materials to online / hybrid courses – by Q4 2026
3. Report progress to PTWS Steering Committee – March, September 2026
   Consult with TWC-MSC Advisory Group (PTWS WG 2 / TT-TSPs, Advanced TWCs, and PICT WG Task Team on Capacity Development) – Q2-Q3 2026
4. Test in Q4 2026
5. Live Pilot (self-paced to in-person) start Q1 2027
   Participants must complete and pass all modules to be eligible to apply for Hands-on Training
6. Report to TOWS WG TTs and to ICG/PTWS-XXXII in Q1-Q2 2027

   ❖ Timeline revisited at end of Q2 2026

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