First Ocean Decade International Coastal Cities Conference
Qingdao, China

Side Event organised by the UNESCO IOC Tsunami Resilience Section: Coastal Cities Facing Sea Level Rise and Tsunami Threats

27 February 2025 - 1220 to 1400 Hrs

Objective of the Session:

Coastal cities are increasingly vulnerable to tsunamis and rising sea levels, posing significant risks to lives, infrastructure, and economies. As urban populations along coastlines continue to grow, strengthening early warning systems, enhancing resilient infrastructure, and improving community preparedness are essential to reducing the devastating impacts of these unpredictable hazards.

Tsunamis are among the most destructive oceanic threats, capable of striking within minutes or hours—often without warning—and impacting entire ocean basins and even multiple regions. Meanwhile, sea level rise, driven by climate change and land subsidence, intensifies coastal flooding, accelerates shoreline erosion, and contaminates freshwater resources. These challenges not only endanger communities but also disrupt vital infrastructure such as ports, harbors, and maritime transport networks.

Following the catastrophic Indian Ocean Tsunami on December 26, 2004, UNESCO's Intergovernmental Oceanographic Commission (IOC-UNESCO) was mandated by the United Nations to establish global tsunami warning systems across different ocean basins. This led to the creation of four regional warning and mitigation systems: the Pacific Tsunami Warning and Mitigation System (PTWS), the Indian Ocean Tsunami Warning and Mitigation System (IOTWMS), the North-eastern Atlantic, Mediterranean and Connected Seas Tsunami Warning System (NEAMTWS), and the Caribbean and Adjacent Regions Early Warning System (CARIBE-EWS), each overseen by an Intergovernmental Coordination Group (ICG).

In June 2021, IOC-UNESCO launched the Ocean Decade Tsunami Programme (ODTP) as part of the UN Decade of Ocean Science for Sustainable Development. This initiative aims to enhance global tsunami warning systems by reducing response times, improving warning accuracy, and enhancing community resilience through programs such as UNESCO-IOC Tsunami Ready. The ODTP aligns with the Sustainable Development Goals (SDGs) and the Sendai Framework for Disaster Risk Reduction (SFDRR) while complementing broader initiatives like UN Early Warnings for All (UNEW4All).

Through a series of expert talks and interactive discussions, this session will:

(i) examine the challenges coastal cities face due to tsunamis and other ocean-related hazards, including sea level rise,
(ii) showcase advancements in tsunami early warning systems and community preparedness, and
(iii) explore opportunities for integrating tsunami warning systems into broader multi-hazard early warning frameworks,
(iv) build partnerships with the "Cities with the Ocean" platform for enhancing community resilience to ocean hazards through programs such as UNESCO-IOC Tsunami Ready.

Detailed Agenda

27 February 2025: 1220 to 1400 Hrs **Theme: Coastal Cities Facing Sea level Rise and Tsunami Threats** Co-Chairs: Prof. Harkunti P Rahayu and Dr. Srinivasa Kumar Tummala		
Time	**Speaker**	**Topic**
1220 to 1230 (10 min)	**Co-Chairs**	Introduction of the Session
1230 to 1240 (10 min)	**Dr. Yuelong Miao** Australian Bureau of Meteorology	Early Warning System for Tsunamis and Other Ocean related hazards
1240 to 1250 (10 min)	**Dr Usama Kadri** Cardiff University	Global Real-time Early Alarm for Tsunami (GREAT)
1250 to 1300 (10 min)	**Dr. Constance Ting Chua** Tohoku University	Tsunami risk to critical infrastructure: Research challenges and potential
1300 to 1310 (10 min)	**Dr. Erick Mas** Tohoku University	Optimisation of evacuation process for costal hazards in a digital world
1310 to 1350 (30 min)	**Co-Chairs**	Interactive Discussion - Audience Q&A, sharing of best practices and solution-driven discussions
1350 to 1400 (10 min)	**Co-Chairs**	Wrap up

Guidance to Co-chairs and Speakers

- One Co-chair will introduce the session theme, its relevance, key challenges, followed by a brief overview of the presentation topics and introduction of speakers.
- Each Speakers will have 10 minutes for the Presentation. Use no more than 6 – 7 slides. Focus on key insights and experiences, as well as challenges and opportunities that could trigger interaction and discussion with the audience.
- Interactive session will be moderated by the co-chairs. This session will encourage audience engagement through Q&A, best practice sharing, and solution-driven discussions. Co-chairs will gather input and feedback from audience.
- The Second Co-chair will summarise the key takeaways and the significance of insights shared and conclude with closing remarks and appreciation for speakers and participants.