

5th ESCAP Disaster Resilience Week
25 to 28 November 2025
CONCEPT NOTE

Understanding Multi-Hazard Risk in Coastal Areas Toward Enhancing Adaption

*Wednesday, 26 November 2025, 16:00 to 17:00 (UTC+7), UN Conference Centre,
Bangkok Thailand*



Overview

This side session will cover the following areas:


1. Showcasing ESCAP's initial work on coastal hazards
2. Providing an example from INCOIS's original work on the coastal areas of India
3. Explore how platforms like SAHF can complement this work - focusing on integration strategies which could support improved resilience to extreme heat in the Asia-Pacific region.
4. Discuss the needs and interests of countries in the National level

Objectives

Coastal countries in Asia and the Pacific face a convergence of tsunamis, climate, and ocean-related hazards that threaten tens of millions of people, critical infrastructure, and fragile ecosystems. ESCAP's 2024 analysis of tsunami risk in a multi-hazard context found that over 20 million people across 13 Indian Ocean countries are exposed to tsunami and cascading hazards – with India, the Maldives, and Sri Lanka among the most affected – and that infrastructure such as educational and health facilities across the entire region is highly exposed. Inland mangroves and coral reefs that act as natural buffers are increasingly at risk. Despite advances in early warning and risk mapping, most countries still lack localized, multi-hazard risk assessments that can guide preparedness, investment, and inclusive planning – leaving informal settlements and small-island communities underserved.

With the support of Climate Action for a Resilient Asia (CARA), the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the Indian National Centre for Ocean Information Services (INCOIS), and the Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES) are working on enhancing regional and national capacity to deliver integrated, inclusive, and anticipatory coastal risk, early warning, and adaptation planning through operational use of a multi-hazard assessment tool supporting impact-based forecasting and evidence-based decision-making.

Building directly on ESCAP's initial findings and using the latest methodology developed by INCOIS, the project will operationalize a standardized, data-driven methodology to estimate



cascading risks from sea-level rise, tropical cyclones, and coastal flooding. It will: (i) integrate regional and subregional hazard, climate, and ocean datasets in a consistent, transparent framework; (ii) overlay hazards with socioeconomic, demographic, infrastructure, and natural-systems layers to map exposure, vulnerability, and future risk. (iii) translate analytics into an interactive Multi-Hazard Vulnerability Coastal Tool within the ESCAP Risk and Resilience Portal, designed for usability, modularity, and integration with impact-based early-warning workflows; and (iv) validate the results through regional platforms (e.g., SASCOF, RIMES, SAHF working groups on Impact-Based Forecasting and Climate Services under CARA/WISER Asia Pacific).

Furthermore, ESCAP's AI-powered ClimaWise prototype will be used to develop a more targeted solution bank for coastal hazards in South Asia to recommend adaptation options grounded in global practice and regional experience.

In addition to the regional work and to ensure practical uptake, the project aims to conduct localized training in two pilot countries of Maldives and Sri Lanka focusing on: (i) high-resolution hotspot mapping using detailed socioeconomic/environmental data and, where feasible, improved bathymetry; (ii) participatory validation and inclusive training for national and subnational stakeholders, engaging local scientific institutions and at-risk communities; (iii) country-specific decision-support tools embedded in ESCAP's Decision Support System platform, covering historical, current, and projected risk; and (iv) user-friendly guides, policy briefs, and visual materials (dashboards/storyboards) for government planners and community organizations.

Programme

Time	Agenda
16:00–16:05	WELCOME REMARKS AND SESSION OVERVIEW Welcome remarks, (TBA)
16:05–13:20	PRESENTATION Introduction of the Multi-hazard Coastal Tool & Initial findings at the regional level (5mins) Ms. Elisa Belez, ESCAP India's Example of work on the Coastal Area and the initial methodology (5mins) INCOIS (TBD)
16:20 – 16:40	PANEL DISCUSSION – DEEP DIVE INTO THE COUNTRY EXPERIENCE AND NEEDS <ul style="list-style-type: none">- What are the Gaps and Challenges- What are the urgent needs in terms of coastal hazards- How SAHF can contribute to addressing the gaps Panelists UK Met, Maldives, Sri Lanka, India, RIMES (TBA)
16:40 – 16:45	CLOSING REMARKS AND WAY FORWARD (TBA)

Organizer(s)

United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), Met Office, UK, Indian National Centre for Ocean Information Services (INCOIS), Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES), South Asia Hydromet Forum (SAHF)

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