

Early Warnings for All: WMO update and opportunities for the ESCAP/WMO Typhoon Committee

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Early Warnings for All

Ensure every person on Earth is protected by early warning systems by 2027.

Disaster Risk Knowledge



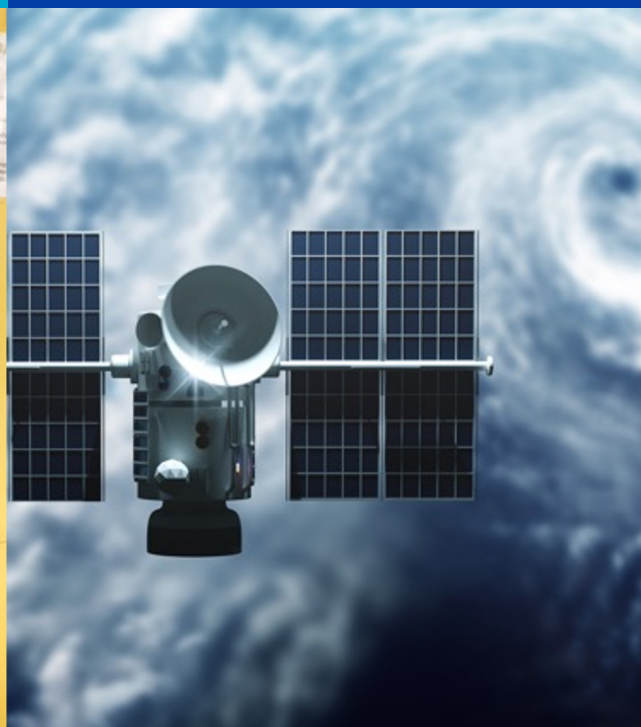
Observations & Forecasting



Warning dissemination
& Communication



Preparedness & Response
Capabilities



Built on **four Pillars** with **Inter-Pillar Domains**

Updates

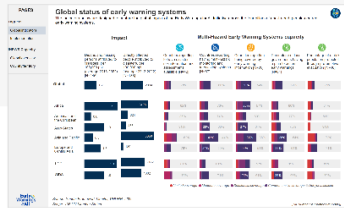


Monitoring & Evaluation

An Interactive Dashboard

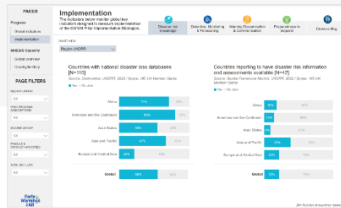


Early Warnings For All



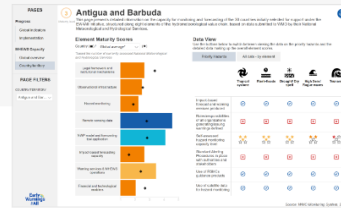
Global indicators

Explore the overall progress of the Early Warnings For All initiative. Indicators capture the global impact of natural disasters and the status of Multi-Hazard Early Warning Systems.



Implementation indicators

Learn more about the global key indicators designed to measure the EW4All Pillar Implementation Strategies. Use the tabs to explore data for each of the four pillars as well as cross-cutting indicators.



MHEWS Country Capacity

Delve into country-level information on the capacity for monitoring and forecasting of the 30 countries initially selected for support under the EW4All Initiative.

Accessible at [Early Warnings for All Dashboard](#)

Annual and Thematic Reports Available on WMO e-library



Two years in, we are making progress

Early warnings are protecting lives: countries in the world with substantial to comprehensive MHEWS in place have fewer disaster-affected people per capita.

55% of countries (108) report having some elements of an EWS in place but significant gaps remain

Risk knowledge (Pillar 1) continues to lag behind the other pillars in terms of both coverage and comprehensiveness, although a steady, improving trend has been observed

Observations & forecasting (Pillar 2) are improving, but gaps remain – also associated with especially for impact-based forecasting

Momentum is building up for early and anticipatory action, but it is still not widespread and institutionalized – only 1/3 of countries report having plans to act on early warnings.

Innovations and new technology bring new opportunities to scale up MHEWS:
Improvements in hardware, software, platforms for data sharing, AI

EW4All Surge to 2030

Africa

- Ethiopia
- Uganda
- South Sudan
- Burundi
- Chad
- Comoros
- Seychelles
- Madagascar
- Mauritius
- Mozambique
- Liberia
- South Africa
- Ghana
- Sudan
- Rwanda

Arab States

- Tunisia
- Somalia
- Djibouti

LAC (Latin America and the Caribbean)

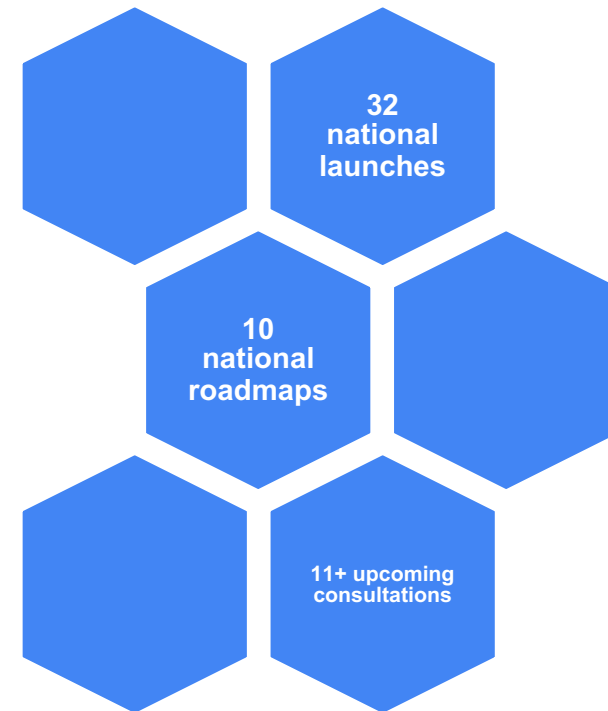
- Haiti
- Barbados
- Antigua & Barbuda
- Guatemala
- Ecuador

Asia Pacific

- Maldives
- Nepal
- Bangladesh
- Cambodia
- Lao PDR
- Fiji
- Solomon Islands
- Tonga

Europe and Central Asia

- Tajikistan



Upcoming national consultations:

- Niger
- Tanzania
- Guyana
- Kiribati
- Samoa
- Sao Tome and Principe
- Mongolia
- Kyrgyzstan
- Iran
- India

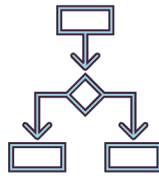
EW4All: Scaling up the surge to 2030

Country-driven approach



- **National ownership:** countries in the driving seat
- **Member States leading** action through national coordination mechanisms
- Pillar leads & partners providing support and guidance

EW4All Support



- Framework identifying key interpillar, system-level results
- **Core activities across and within pillars for countries to strengthen end to end national EWS**
- EW4All technical guidance & tools to support implementation

Tools to test System Effectiveness



- **Developing simulation methodology for testing effectiveness of end-to-end EWS**
- Tools for effectiveness scanning (tied to maturity index)
- Troubleshooting and identification of priority issues to address

Strengthened Collaboration



- **Coordination at (sub)regional & country level**
- Strengthened involvement of UN RCs & UNCTs
- Wide stakeholder engagement
- Streamlined and tailored approach

WMO Portfolio Overview | Asia Region (RA II)

10 Active Projects

- BMU: Applying Seasonal Climate Forecasting SouthEastAsia (De-Risk)
- CREWS Afghanistan
- CREWS Cambodia and Lao PDR
- GIZ: IUS4CRC-Thailand
- KMA: Climate Data Rescue in Uzbekistan, Phase 2: Digitization (closing)
- KMA: Modernization of the Aviation Meteorological Services of Mongolia
- QCF: Carbon Sequestration by Bamboo Forest

Global/Cross Regional Projects

- USAID: FFGS/MHEWS
- CREWS: EW4All multi-stakeholder accelerator in LDCs and SIDS
- Swedish Contribution to EW4ALL

16.1 M CHF

Projects only targeting Asia (RA II), cross-regional & global projects targeting the region

» Pre-Approved: 30,5 M CHF



Bundesministerium
für Umwelt, Naturschutz
und Reaktorsicherheit

CHF 7.5 Million



CREWS CLIMATE RISK & EARLY WARNING SYSTEMS

CHF 5.1 Million



CHF 1.1 Million



USAID
FROM THE AMERICAN PEOPLE

CHF 1 Million



Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

CHF 500,000



Korea Meteorological
Administration

CHF 750,000



Sida

CHF 150,000

Opportunities for the Typhoon Committee to engage

Opportunities for Typhoon Committee Members



EW4All Pillars Programmatic Frameworks outputs

Typhoon Committee Strategic Plan
Key Results Areas (KRAs) 1-7

Mapping EW4All outputs vs
Typhoon Committee KRAs

RBON – Regional Basic Observing Network
IBFWS – Impact –based forecasting and warning services and CAP – Common Alerting Protocol
BCM – Business Continuity Management
COPE Series for the Youth

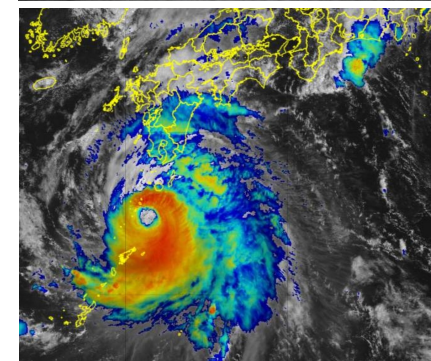
Opportunities for the Typhoon Committee

Regional Basic Observing Network (RBON)

RA II has identified the following key challenges

- Heavy rainfall (thunderstorms, lightning), pluvial, flash floods, landslide,
- Tropical cyclones/typhoons,
- Drought
- Extreme temperature events (heat and heatwaves, cold waves),
- Sand and dust (suspension, deposition and sedimentation)

Identified as basic priority hazards to be addressed at the RA II RBON implementation workshop.



RA II RBON implementation workshop

- Hong Kong Observatory, 17-20 February 2025.
- Progress with RBON design in RA II
- Develop necessary documentation for RBON implementation.
- Typhoon experts invited to the workshop from Nanjing University, China and from Nagoya University, Japan)

Typhoon Committee is invited to assist

- **in defining the observational requirements to be addressed by RBON**
 - **Experts from the Typhoon Committee could participate in the workshop and the following activities including the development of the guidance material**
- **in promoting RBON value for the benefits of all affected Members.**

Opportunities for the Typhoon Committee

IBFWS – Impact-based forecasting and warning services **CAP – Common Alerting Protocol (contribution to EW4ALL** **Pillar 3**

The global implementation of IBFWS and CAP are key approaches promoted by WMO and milestones in the implementation of the EW4All initiative.

Typhoon Committee to be informed of an example of a regional workshop ([WMO Workshop on IBFWS and CAP for the Americas](#)) which can be replicated

- Enhance knowledge and awareness of IBFWS and reinforce CAP implementation through practical exercises.
- Facilitate peer-to-peer knowledge exchange and capacity building by strengthening the regional network.
-> Members with robust systems can offer training and tools to help others upgrade their capabilities.



Opportunities for the Typhoon Committee

Business Continuity Management (BCM)

Facts

- The COVID-19 pandemic and the Tonga volcano eruption highlighted an unprecedented need for guidance on managing system operations and maintenance.
- National Meteorology and Hydrology Services (NMHSs) play a vital role in public safety and economic support.
- BCM is essential for NMHSs to plan for operational disruptions.

Updates

- BCM Guidelines for Members endorsed by WMO Executive Council ([approved doc](#); publication available online soon)
- Task Team on BCM established to develop training materials

Challenges

- Limited awareness and understanding of business continuity.
- An urgent need for a collective regional BCM system to enhance resilience.
- Insufficient guidance and tools for BCM.

The Typhoon Committee is encouraged to

- Recognize the importance of embracing business continuity
- Share best practices and challenges in BCM.
- **Develop region-specific BCM guidance and tools for typhoon-related activities.**

Opportunities for the Typhoon Committee

The COPE initiative - WMO's Special Contribution to Pillar 1



Encourage to support **the translation of the COPE Series in Typhoon Committee members' local languages** and engage in more outreach activities

Reminder - Announcement

Fourth International Workshop on
Satellite Analysis of Tropical Cyclones
(IWSATC-4)

Fourth International Workshop on Satellite Analysis of Tropical Cyclones (IWSATC-4) | World Meteorological Organization

- Increase the accuracy and reliability of satellite analysis of tropical cyclones through the sharing of the latest knowledge and technologies between the operational forecasters and the researchers in this area.
- **ONLINE, Three-day workshop, 3-5 December 2025, from 0100 to 0400 UTC each day**
 1. Tuesday 3 December: Update on satellites and sensors - current status and emerging
 2. Wednesday 4 December: Update on objective Satellite TC analysis methods
 3. Thursday 5 December: Best practice applications of satellite analysis techniques for operations using case studies

Thank you.



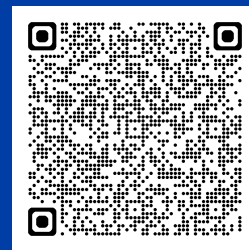
Visit: earlywarningsforall.org



[Executive Action Plan](#)



[Global Status Report](#)



[Dashboard](#)

Pillar 2: Programmatic framework – expected outcomes

1. Increased availability of observation data to assess and monitor priority hazards.
2. Enhanced data exchange and access for forecasting and warning systems.
3. Increased capabilities to forecast all priority hydrometeorological hazards.
4. Impact-based forecasts and warnings produced for all priority hazards.
5. Strengthened governance structures, institutional arrangements, and collaboration mechanisms to enhance the management of hazards

Pillar 2 links to the other Pillars

Pillar 1 guides & contextualises Pillar 2 with risk & vulnerabilities data

Pillar 2 supports:

- **Pillar 1**, by providing historical datasets to assess loss and damage related to high-impact events and assess changes in trends – [e.g. WMO Cataloguing Hazardous Events \(CHE\), COPE Series to Typhoon Committee members' local languages](#)
- **Pillar 3**, by providing forecasts, analysis, and impact-based warning production and services for communication – [e.g. Common Alerting Protocol \(CAP\) implementation](#)
- **Pillar 4**, by enabling preparedness and anticipatory action by producing actionable warnings – [e.g. WMO Coordination Mechanism \(WCM\) for humanitarian activities](#)

Pillar 3 disseminates actionable warnings produced by Pillar 2

Pillar 4 provides feedback to Pillar 2, by conducting preparedness exercises that test the effectiveness and enable system refinement.