Early Warnings for All

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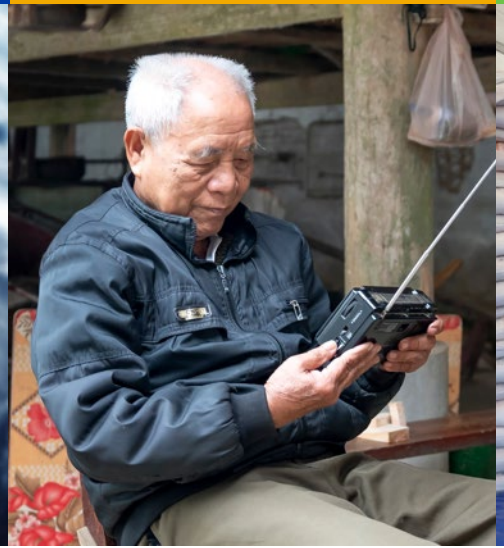
Disaster Risk Knowledge	Observations & Forecasting	Dissemination & Communication	Preparedness & Response

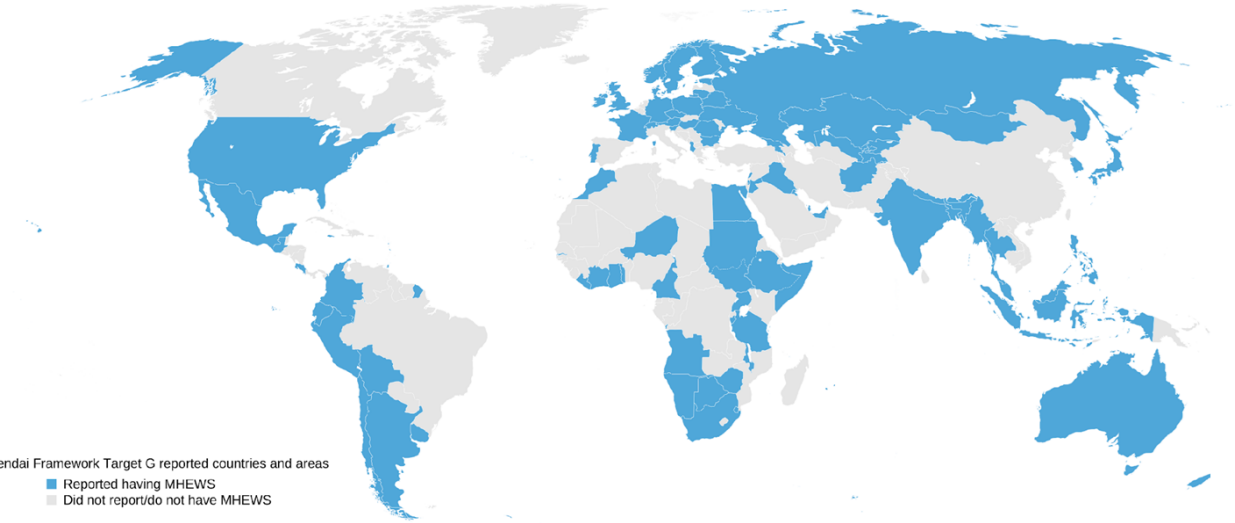


UNDRR UN Office for Disaster Risk Reduction

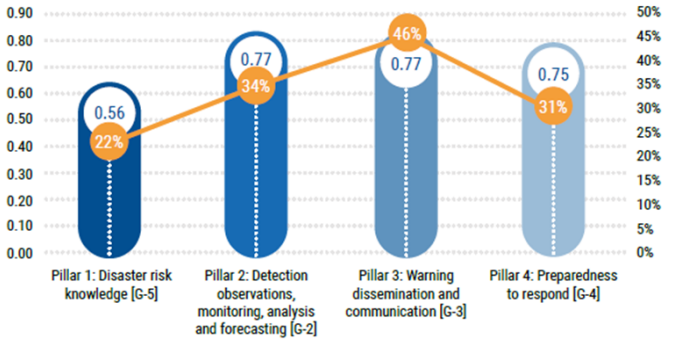
WORLD METEOROLOGICAL ORGANIZATION

ITU

IFRC



Countries reporting by MHEWS elements

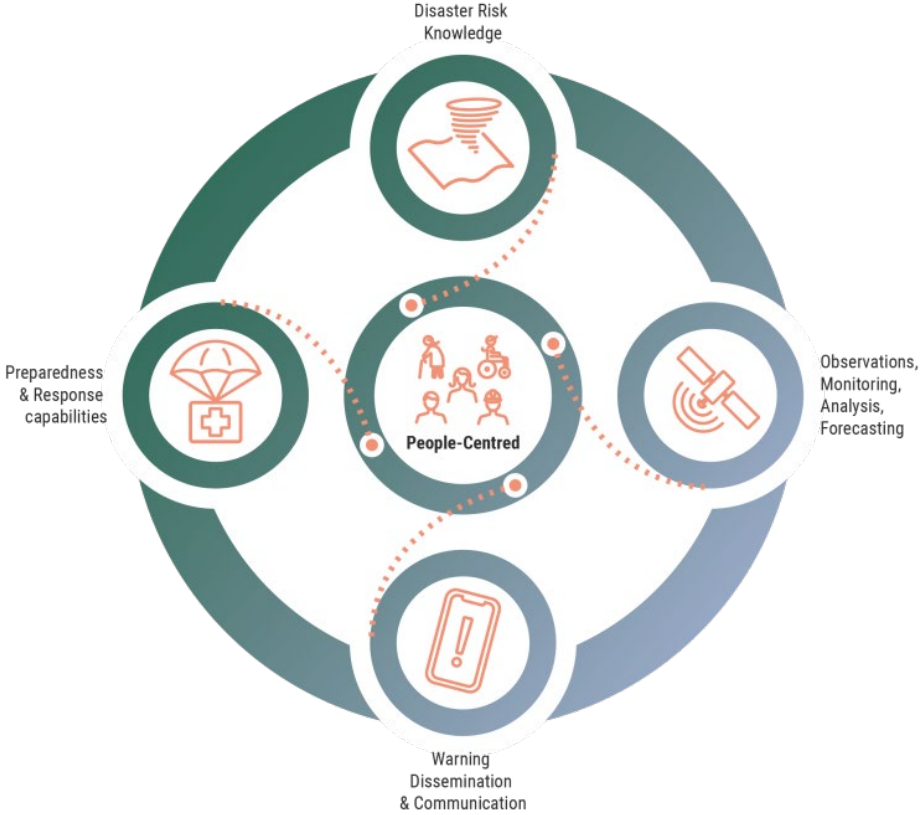


91% of the world's population now lives in a country that is implementing Common Alerting Protocol

95% of world's population with access to a mobile broadband network

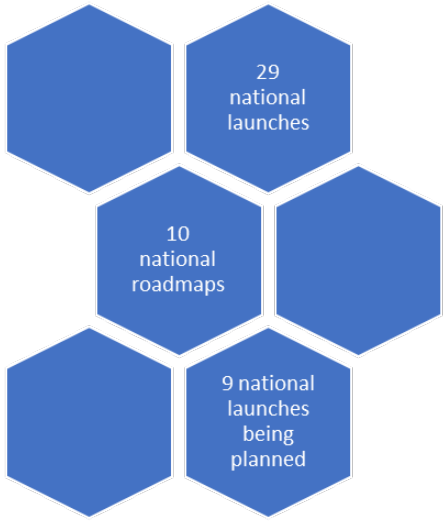
Over 0.25 billion evacuated each year before a disaster strikes between 2015-2021

EW4All – MHEWS Approach



EW4All Roll Out

- **Africa**
  - Ethiopia
  - Uganda
  - South Sudan
  - Burundi
  - Comoros
  - Seychelles
  - Madagascar
  - Mauritius
  - Mozambique
  - Liberia
  - South Africa
- **LAC (Latin America and the Caribbean)**
  - Haiti
  - Barbados
  - Antigua & Barbuda
  - Guatemala
  - Ecuador
- **Asia Pacific**
  - Maldives
  - Nepal
  - Bangladesh
  - Cambodia
  - Lao PDR
  - Fiji
  - Solomon Islands
  - Tonga
- **Arab States**
  - Tunisia
  - Somalia
  - Djibouti
  - Chad
- **Europe and Central Asia**
  - Tajikistan

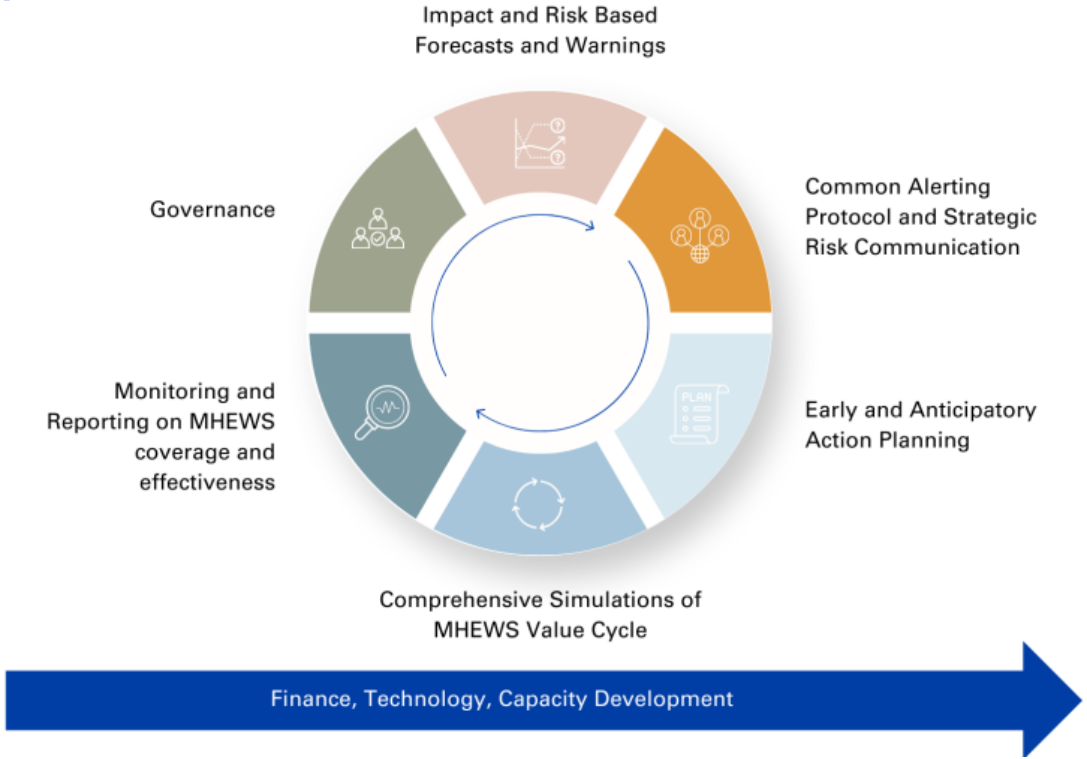


Upcoming launches:

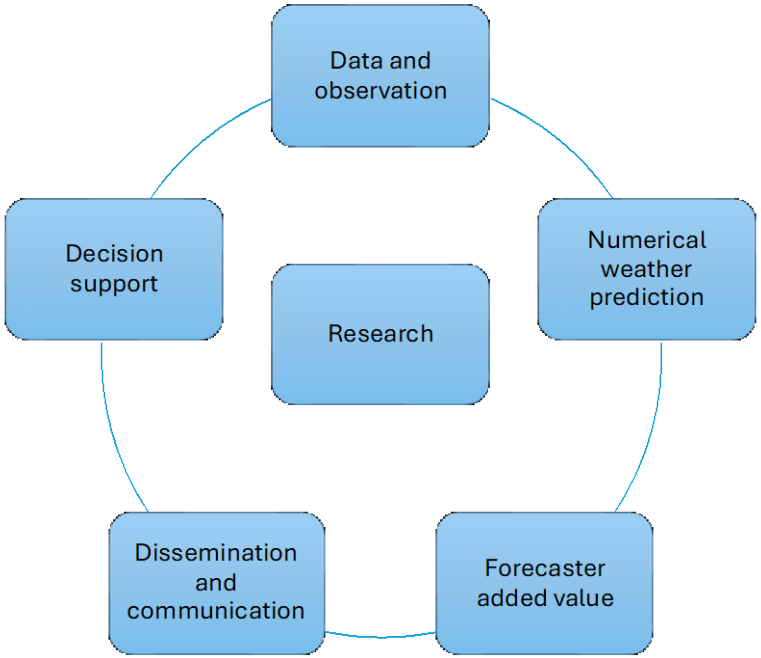
- Niger
- Sudan
- Tanzania
- Rwanda
- Ghana
- Guyana
- Kiribati
- Samoa
- Sao Tome and Principe

EW4All Scaling Up Approach: Programmatic Framework

Key Interpillar Outcomes



Pillar 2


Data and observation
Numerical weather prediction
Forecaster added value
Dissemination and communication
Decision support
Research

Priority Hazards

Non-hazard specific/cross-cutting

Hydrological
- Flash floods
- Riverine floods

Meteorological/synoptic
- Tropical cyclones and extra-tropical storms
- Heatwaves
- Cold waves
- Thunderstorms/squall lines

Extended range
- Drought/dry spells

Cross-domain
- Coastal inundation/storm surge
- Cryosphere-related hazards
- Emerging and additional environmental hazards (e.g. wildfire, sand and dust, tsunamis, landslides and volcanic activity).

Strengthening the Basics

1. Analyzing and Interpreting Satellite Imagery
•**Training Need**: Equip participants with skills to analyze satellite data and imagery to monitor weather patterns, cloud formations, and developing hazards (e.g., tropical storms, droughts).
•**Key Competencies**: Understanding satellite-based observation techniques, interpreting infrared and visible spectrum data, and using imagery to assess atmospheric conditions.

2. Verifying Numerical Weather Prediction (NWP) Models
•**Training Need**: Build capacity to verify and validate outputs from NWP models, comparing forecast data with real-time observations for accuracy and improvement.
•**Key Competencies**: Cross-referencing NWP outputs with satellite and observational data, understanding model biases, and applying verification techniques to refine weather predictions.

3. Using NWP to Discuss the Progression of Weather Systems
•**Training Need**: Develop skills in utilizing NWP outputs to track and predict the movement and evolution of weather systems over time (e.g., storm tracks, precipitation).
•**Key Competencies**: Interpretation of NWP model outputs, tracking system progression, and linking model predictions with real-world impacts for early warning services.

4. Impact-Based Forecasting (IBF)
•**Training Need**: Train staff on how to implement IBF, which integrates weather forecasts with vulnerability and exposure data to predict potential impacts on communities and infrastructure.
•**Key Competencies**: Combining meteorological data with socio-economic factors, creating impact-driven forecasts, and supporting decision-makers in taking preventive action.

5. Warning Communication
•**Training Need**: Enhance capacities for effectively communicating early warnings to various stakeholders, ensuring messages are clear, actionable, and accessible to the public.
•**Key Competencies**: Risk communication strategies, designing messages for different media platforms (radio, TV, mobile), ensuring accessibility for diverse and vulnerable populations.

Emerging Areas

1. Addressing Emerging Hazards
•**Training Need**: Equip public service providers with the ability to anticipate and respond to newly emerging hazards, such as climate change-induced extreme events (e.g., heatwaves, sea-level rise, and flash floods).
•**Key Competencies**: Risk assessment of new hazards, development of hazard-specific early warning protocols, and creating adaptive strategies for newly identified risks.

2. Compound Hazards
•**Training Need**: Build capacity to manage and respond to compound hazards (e.g., drought followed by wildfires, storms leading to landslides) that occur simultaneously or sequentially, exacerbating the impact.
•**Key Competencies**: Hazard interaction analysis, integrated risk modeling, multi-hazard early warning systems, and developing coordinated responses for cascading impacts.

3. Integration of New Technologies
•**Training Need**: Ensure training on the application of emerging technologies like AI, machine learning, drones, and remote sensing to enhance forecasting accuracy and disaster management.
•**Key Competencies**: Utilization of AI-driven forecasting tools, real-time data collection via drones and sensors, interpreting big data for early warnings, and applying tech innovations to improve disaster response efficiency.

4. Addressing Cross-Sectoral Elements
•**Training Need**: Strengthen the ability to collaborate across sectors (e.g., health, infrastructure, agriculture) in the delivery of early warnings and response strategies, ensuring an integrated approach to disaster risk reduction.
•**Key Competencies**: Cross-sectoral risk communication, integrating early warnings into health and agriculture planning, and fostering multi-stakeholder coordination for broader disaster resilience.


90
80
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Early warning systems work.
We need your support so they can work for everyone

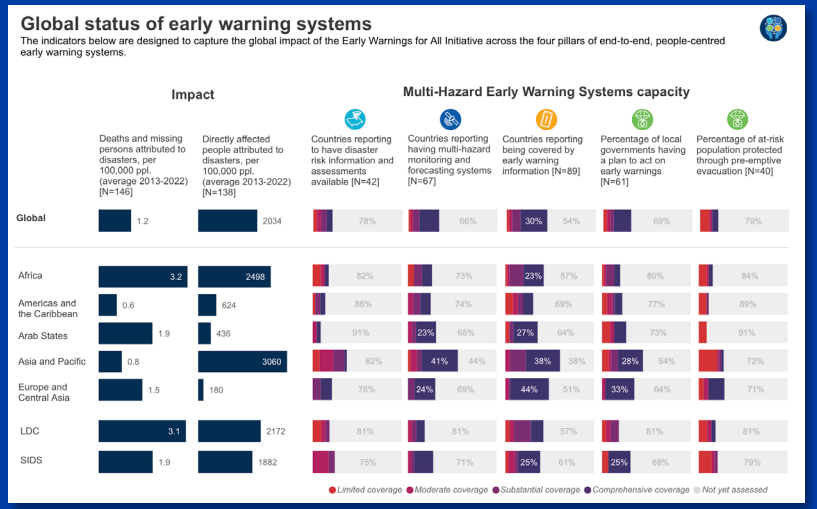
Early Warnings for All

Visit:

earlywarningsforall.org

for more information.

Resources:



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[Pillar 2 – Rapid Assessment]

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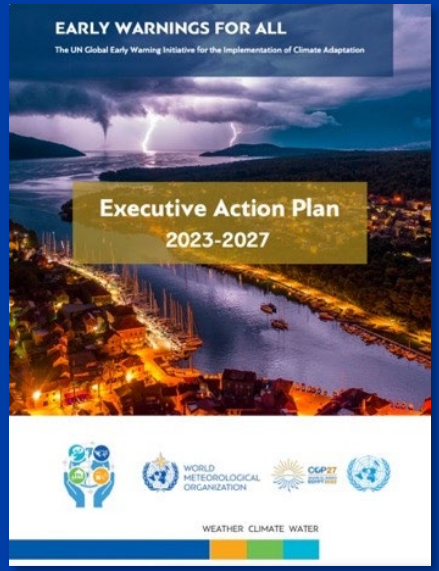
[Dashboard]

Resources:



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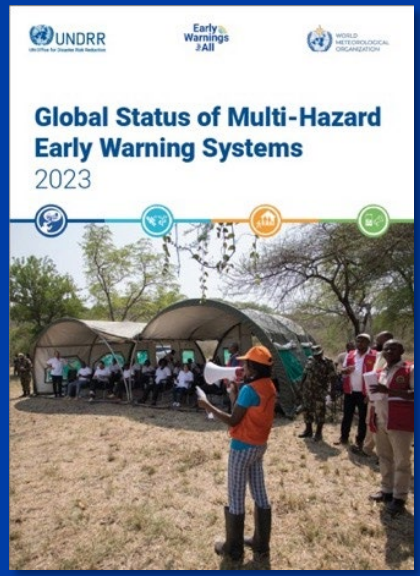
Executive Action Plan



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Global Status Report