Early Warnings for All

FACTSHEET

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Initiative background

Early Warnings for All is a ground-breaking initiative to ensure that everyone on Earth is protected from hazardous weather, water or climate events through life-saving early warning systems by the end of 2027.

With human-induced climate change leading to more extreme weather conditions, the need for early warning systems is more crucial than ever. Systems that warn people of impending storms, floods or droughts are not a luxury but a cost-effective tool that saves lives, reduces economic losses and provides a nearly tenfold return on investment.

Early warning systems have helped decrease the number of deaths and have reduced losses and damages resulting from hazardous weather, water or climate events. But major gaps still exist, especially in small island developing States and least developed countries. The United Nations Secretary-General, António Guterres, in 2022 called for a global effort to ensure that early warning systems protect everyone on Earth by 2027.

As part of the United Nations Secretary-General's Acceleration Agenda, the Early Warnings for All initiative is a key contribution to delivering climate justice to those at the frontlines of the climate crisis. It aligns with the priorities of the Paris Agreement and supports key provisions of the Sendai Framework for Disaster Risk Reduction, particularly Target G on availability and accessibility of multi-hazard early warning systems. It also contributes to delivering the targets of the 2030 Agenda for Sustainable Development on poverty, hunger, health, water, clean energy, climate action and sustainable cities.

Joint framework for action

The *Early Warnings for All: Executive Action Plan 2023–2027* was launched by the United Nations Secretary-General at the twenty-seventh session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP 27) in Sharm El-Sheikh, Egypt in November 2022. It was endorsed by the Parties to the UNFCCC and included in the Sharm El-Sheikh Implementation Plan.

The Executive Action Plan presented at COP 27 calls for the delivery of Early Warnings for All (EW4All) to be scaled up and for coordinated investments and action across the four essential pillars of end-to-end, people-centred multi-hazard early warning systems (MHEWS):

Pillar 1: Disaster risk knowledge and management

Pillar 2: Detection, observations, monitoring, analysis and forecasting

Pillar 3: Warning dissemination and communication

Pillar 4: Preparedness and response capabilities

The Executive Action Plan emphasizes that delivering on the United Nations Secretary-General's five-year goal of Early Warnings for All requires global and regional collaboration. There has already been significant work among Members, regional bodies, United Nations entities, the private sector, and financing institutions, among others.

In particular, the Early Warnings for All initiative is co-led by the World Meteorological Organization (WMO) and the United Nations Office for Disaster Risk Reduction (UNDRR), with support from the International Telecommunication Union (ITU), the International Federation of Red Cross and Red Crescent Societies (IFRC) and other partners.

The initiative is also engaging development partners through existing partnerships and coalitions such as the Alliance for Hydromet Development, the Risk-informed Early Action Partnership and other regional partnerships and alliances.

The Executive Action Plan indicates how key foundational financing mechanisms will be scaled up to support the achievement of the goal, including the Climate Risk and Early Warning Systems (CREWS) initiative and Systematic Observations Financing Facility (SOFF), working closely with the Green Climate Fund (GCF), Adaptation Fund (AF) and Global Environment Facility (GEF), as well as Multilateral Development Banks.

Focus on pillar 2: Detection, observation, monitoring, analysis and forecasting

Pillar 2 aims to close critical gaps among WMO Member States and Territories, as illustrated by the following challenges:

- Only one third of WMO Member States and Territories report having multi-hazard monitoring and forecasting systems.
- There are critical gaps in surface and upper air meteorological observations across Africa, parts of the Pacific and the west of Latin America.
- Just over half of countries (56%) report using hazard, exposure and vulnerability data in their forecasts, limiting the progress on impact-based forecasting and warning (IBFW).
- Two thirds (67%) of WMO Members report having warning and alerting services available 24/7.
- Fewer than four in ten (38%) of WMO Members report having legal arrangements to enable MHEWS.
- In the 30 countries initially selected for Early Warnings for All coordinated assistance, half of the National Meteorological and Hydrological Services (NMHSs) currently operate with basic monitoring and forecasting capacity and close to a quarter with less-than-basic capacity.

WMO takes these gaps into account to guide its work across its activities, programmes, technical commissions, Research Board and regional associations. By leveraging its entire network, WMO aims to enhance the capabilities of its Member States and Territories, ensuring that EW4All objectives are met and critical gaps are closed.

See EC-78/Doc. 3.1 for the WMO Road Map for the Early Warnings for All Initiative

IMPROVING DATA QUALITY AND ACCESS

It is essential to have more high-quality data available for monitoring and detecting hazardous events. These data form the backbone of services for weather, climate and water. WMO makes sure that these much needed data are produced and of good quality for application across global, regional and national scales.

See EC-78/Doc. 4.1.1(4) for the latest developments on climate data stewardship and helping enhance the completeness of datasets available to Members.

SHARING DATA WORLDWIDE

Ensuring easy sharing and access to weather, climate and water data globally is paramount, particularly when it comes to forecasting and issuing early warnings. Organizations tasked with collecting or generating data sets, creating forecast products, refining information and offering storage services play a pivotal role in this effort. WMO's goal is to enable smooth data sharing across local, national and global scales, while keeping it cost-effective.

See EC-78/Doc. 4.1.2(1-5) for recent updates to WIGOS, WIS and observation codes that underpin the Global Observing System.

ENHANCING FORECASTING CAPABILITIES

WMO's focus is on refining the utilization of predictive tools for significant weather-associated hazards, including by leveraging improved data and advanced computational power, and deepening insights into weather dynamics to improve weather forecasting precision.

See EC-78/Doc. 4.1.1(1) on the Implementation Plan on National Drought Early Warning Systems, which provides more details on how WMO is enabling data access and exchange, as well as monitoring and forecasting of priority hazards, as part of efforts on EW4All.

PROACTIVE MEASURES FOR EARLY ACTION

WMO works within its regional associations and in support of its Members to ensure that the forecasts are not only timely, but usable and actionable.

See EC-78/Doc. 4.1.1(9) on implementing mechanisms for health science and services, which builds on Resolution 17 (EC-76) regarding WMO activities on extreme heat and health, among other WMO decisions.

ESTABLISHING ROBUST LEADERSHIP FRAMEWORKS

Robust governance is pivotal, which involves crafting appropriate policies, establishing efficient organizations, and ensuring collective participation to facilitate prompt forecasts, warnings and actions. Such frameworks also foster platforms for knowledge exchange and discussions on current advancements and trends in disaster risk reduction. WMO supports the creation of an enabling environment for MHEWS.

See EC-78/Doc. 4.1.1(7) on business continuity management guidelines, which ensure preparedness for events that may disrupt operations and services, for example through early warning systems.

WMO will ensure the global work plan is implemented at the regional and national levels, in line with national priorities, contexts and needs. As such, WMO will support the development of the national EW4All road map and will support the technical and operational work of the road map where it concerns pillar 2.

Efforts on pillar 2 across these areas are further detailed in EC-78/Doc. 3.1 on the WMO Road Map for the Early Warnings for All Initiative. In addition, they are illustrated in EC-78/Doc. 4.2 on the WMO scientific and technical programmes.

EW4All implementation

The 193-Member Congress has accorded Early Warnings for All the highest priority for the organization, as enshrined in the WMO Strategic Plan 2024–2027.

Accordingly, key WMO activities are coordinated and consolidated under the Early Warnings for All umbrella, including the work of the technical commissions and regional associations aligned to achieve the goal.

Since its launch, the initiative has focused on coordination across the four pillars for action and on rollout of activities at the national level. This was kicked off by agreement among all partners to begin implementation with 30 countries characterized as highly vulnerable and exposed to climate change impacts.

EW4All has devised a strategic rollout plan consisting of two pivotal phases: the catalytic phase and the sustained action phase. During the catalytic phase, countries identify gaps and mobilize stakeholders to accelerate universal MHEWS coverage through national EW4All road maps. This is followed by the sustained action phase, which focuses on collectively implementing road maps and enhancing MHEWS capabilities. Facilitating this process is the Interpillar Technical Coordination Group (UNDRR, WMO, ITU, and IFRC), which has developed a toolkit and guidance to orient national rollout across countries.

Thanks to national leadership and pillar partner support, to date 22 countries have held their national EW4All workshops, demonstrating their commitment to fulfil the goal of universal MHEWS coverage by 2027. These have yielded national road maps, which countries and their partners are using for scaled-up and coordinated action across the 4 pillars. Fourteen more workshops are planned this year.

The successful implementation of EW4All road maps relies heavily on the active participation of a diverse range of stakeholders, including the United Nations, non-governmental organizations, civil society, academia and the private sector. These entities each bring unique expertise, resources and perspectives to the table, enhancing the overall effectiveness of the initiative through coordinated action. Coordinated action enables the pooling of resources, avoids duplication of efforts and maximizes impact. Moreover, partnerships foster innovation, knowledge-sharing and capacity-building, creating a synergistic approach that strengthens resilience and enhances global preparedness for disasters and emergencies.

Continued support for the initial 30 countries is paramount to ensuring the successful implementation of the Early Warnings for All initiative. These countries have made significant progress in finalizing their national road maps and mobilizing resources for the deployment of MHEWS. Sustaining this momentum and providing ongoing assistance will be crucial as they work towards establishing essential early warning capabilities.

However, successful implementation of the Early Warnings for All initiative also requires enhancement of early warning capacity in all countries. Efforts are underway to expand our focus to better support work undertaken by the broad range of donors and development banks and, importantly, by countries themselves, in order to capture progress wherever it occurs.

In all aspects of implementation, WMO emphasizes: the fundamental role of NMHSs as the official and authoritative providers of early warnings for hydrometeorological and climatological hazards; the primary responsibility of Members to establish MHEWS; and the collaborative efforts of national and international stakeholders required across the MHEWS value cycle.

See the “Background documents” section of the EC-78 mini site, which contains the EW4All toolkit.

Monitoring and evaluation

Measures of success and clear expectations for the implementation of the Initiative have been set through the monitoring, evaluation and reporting framework, which has been developed by experts from the participating organizations. A "theory of change" has been developed for the EW4All initiative to provide an overview of the outcomes, outputs and goal of the initiative. The monitoring and evaluation framework consists of a common set of indicators to be used across the different programmes and projects to monitor progress against the theory of change.

WMO established a baseline on pillar 2 capacity through a two-pronged approach: developing a rapid assessment methodology for evaluating early warning capacity in the 30 rollout countries and conducting country hydromet diagnostics to assess NMHSs' overarching capacities and operating environments.

Global status reports on early warning systems 2022 and 2023 were produced, providing a periodic stocktake of progress in early warnings.

An Early Warnings All Dashboard was launched at COP 28, providing transparent and continuous monitoring of progress on the initiative. Formulation of an EW4All Maturity Index is ongoing, based on a cross-pillar, common understanding of the basic requirements and maturity levels of early warning systems and capturing early action among Members, implementing partners and relevant stakeholders.

See EC-78/INF. 3.1(2) for more details on pillar 2 rapid assessment: hazard monitoring and forecasting, including details on the EW4All monitoring framework.

Priorities and work ahead

Areas of focus for the initiative in 2024 and beyond:

- ***Accelerating implementation***
  Providing coordinated support and technical assistance to bridge gaps outlined in national EW4All roadmaps, including through strategic partnerships and incorporation of new technologies, to enact innovative solutions.

- ***Expanding outreach***
  Extending the reach of EW4All beyond the first cohort of 30 countries to meet demand and needs of countries and vulnerable communities.

- ***Unlocking funding for sustainable early warning systems***
  Strategically accessing and leveraging funding to ensure sustained action and achievement of EW4All goals.

See EC-78/Doc. 6(1) on revised guidelines for public–private engagement, EC-78/Doc. 8(4) on the WMO Resource Mobilization Strategy, and EC-78/Doc. 5.1 on cooperation and coordination with the United Nations, which provide more details on the efforts to make headway on these priority areas.