WORLD METEOROLOGICAL ORGANIZATION

1950-2025 SCIENCE for ACTION

Early Warnings for All

A Global Effort to Protect Communities and Economies

Extreme weather, climate, and water-related events have caused nearly 12 000 disasters in the past 51 years (1970-2021), leading to over US$ 4.3 trillion in losses and affecting millions worldwide.

Disaster-related deaths have fallen but financial losses are soaring. Developing countries and small island states are hit disproportionately hard, often lacking the necessary protection and preparedness.

The urgent need for effective multi-hazard early warning systems has never been clearer. They save lives and money. More than 60% of all countries now have these systems—a big improvement over the past ten years—but many millions of people remain vulnerable to escalating risks.

The Early Warnings for All initiative was launched in response to a call from United Nations Secretary-General António Guterres in 2022 to ensure everyone is protected from weather, climate, water and environment-related hazards by 2027.

* World Meteorological Organization, 2022 - WMO Atlas of Mortality and Economic Losses from Weather, Climate, and Water Extremes (1970–2019) (WMO-No. 1267) 2022 update.

Co-led by the World Meteorological Organization (WMO) and the UN Office for Disaster Risk Reduction, in partnership with the International Telecommunication Union and International Federation of Red Cross and Red Crescent Societies, the initiative delivers a coordinated action plan built around four critical areas:

- **Free exchange of data and observations** to provide the foundation for accurate advance forecasts.
- **Risk mapping and analysis** to strengthen disaster risk reduction planning and help prevent harm before it happens.
- **Timely and accessible alerts** to reach even the most vulnerable through trusted channels like radio and mobile messaging.
- **Preparedness and response mechanisms** to ensure that communities can act fast and recover quickly.

A Global Brand for Solidarity

Early Warnings for All is no longer just an initiative. It is a global brand which brings together science, political will and international solidarity. It is more than a slogan, it is a promise of dignity, safety and prosperity.

Dozens of countries now have road maps to chart the collective way forward. Innovation and new digital technologies are driving momentum.

WMO works to strengthen observations – from surface, upper-air, oceanic and satellite systems – which form the backbone of hazard monitoring and timely forecasts. Progress is being made towards the Global Basic Observing Network, but critical gaps remain, especially in Least Developed Countries and Small Island Developing States.

The foundations for further collective progress are clear: closing the observation and capacity gap; free and open data exchange; sustainable financing; institutional strengthening; coordinated scientific cooperation and equitable access.

Early Warnings, Lasting Impact

Every dollar invested in early warning systems can save up to 15 dollars in reduced disaster impacts.

The Global Commission on Adaptation found that spending US$ 800 million on such systems in developing countries would avoid losses of US$ 3-16 billion per year.

Countries with strong multi-hazard early warning systems have a disaster-related mortality rate nearly six times lower than those without.

Just 24 hours notice of an impending hazard can cut the ensuing damage by 30%.

Scaling up heat-health warning systems in just 57 vulnerable countries could save nearly 100 000 lives every year.

From 2015-2022, 2.1 billion people were evacuated in advance thanks to early warning systems.

From Risk to Resilience

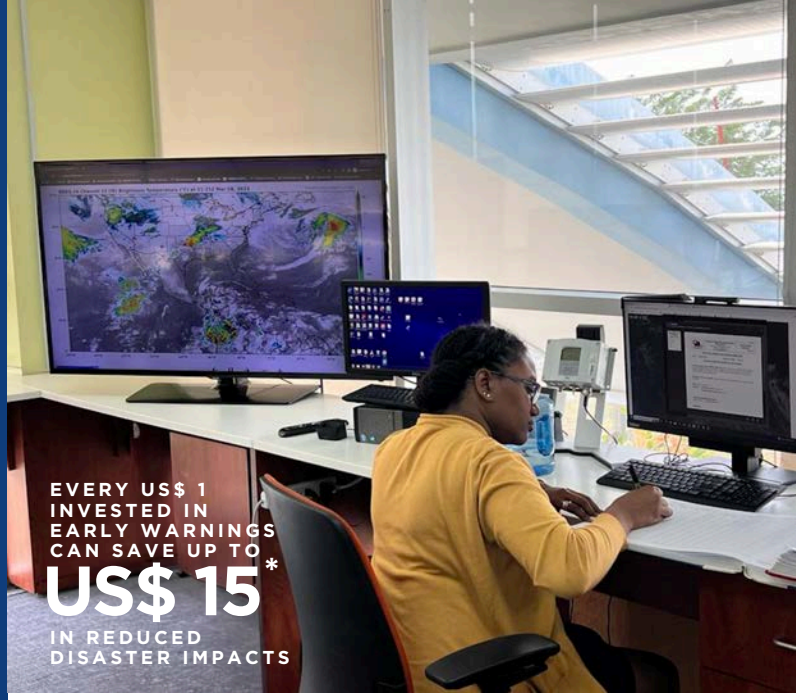
As of 2025, 119 countries have some form of Multi-hazard Early Warning System – a 129% increase since 2015. This means more observing stations, more accurate forecasts and warnings, and more lives and livelihoods saved.

Tropical cyclones: advances in forecasts, regional cooperation, anticipatory action and community mobilization have slashed the death toll in low-lying coastal areas in the Caribbean, Indian Ocean and Pacific and in densely populated settlements in Asia.

Drought and floods: Dozens of countries have strengthened capacity to forecast flash, urban and riverine floods and develop proactive drought monitoring.

Extreme heat: Heat-health early warning systems and action plans are gaining traction, embracing multiple sectors of government and society.

Sand and dust storms and wildfire smoke: WMO-accredited regional centres are helping transform research into operational forecasts.



Early Warning Systems Save Lives and Money

Cumulatively, US$ 5.7 billion were allocated in EWS-related funding since 2010.

As of mid-2025, 130 Members are benefiting from WMO support through targeted projects to extend coverage, close critical gaps, and ensure no one is left behind.

To continue and accelerate this essential work for the public good, WMO seeks to scale-up public and private investment for both its extra-budgetary and core activities. This would help leverage existing financing and have a multiplier effect on the value of investments.

Strategic priorities for donor support include:

1. **Expand global observational capacity** and close the gaps in observing networks.
2. **Modernize data sharing infrastructure** that underpins all warnings.
3. **Help close the digital divide** to ensure that timely warnings can be issued and accessed.
4. **Support innovation, including AI pilot projects** to help developing countries leapfrog to more advanced early warning capabilities.

Early warning systems save lives, boost economies, and build resilient, sustainable communities. They are a cost-efficient and effective investment.

Early warnings work. They must work for everyone. Everywhere. All the time.

* Source: Global Status of Multi-Hazard Early Warning Systems 2025