

# Strengthening Climate Information & Early Warning Systems



## UNDP'S SERVICE OFFER

As climate change drives more frequent and intense extreme weather events, the ability to anticipate hazards before they strike is crucial to protecting lives and economies. Climate information and effective early warning systems are among the most cost-effective investments countries can make towards strengthening resilience, supporting national adaptation priorities, and delivering on Nationally Determined Contributions.



**24 hours' notice of an impending hazardous event could reduce damage by 30 percent.\***

UNDP Cambodia



**Investing just US\$800 million in multi-hazard early warning systems could prevent annual losses between US\$3-16 billion.\***

**UNDP's vision for early warning systems is to ensure governments and communities have timely, risk-informed warnings and climate information they can trust – enabling them to understand emerging threats, take early action and put in place the adaptation measures needed to manage growing climate risks.**

# HELPING COUNTRIES REACH THEIR CLIMATE GOALS

UNDP's whole-of-government approach helps countries build early warning systems that are people-centred and built to last. We support participatory design that reflects local needs and knowledge; strengthen how information is shared within and across countries and regions; and support countries to adopt innovative, cost-effective technologies that fit their national context. We also forge strategic partnerships – including with the private sector – to unlock finance, accelerate delivery and scale impact. Together, these efforts help governments move from fragmented efforts to robust, end-to-end early warning systems that save lives, protect livelihoods and strengthen resilience.

Since 2002, UNDP has been helping countries

## STRENGTHEN EARLY WARNING CAPACITIES



**97** projects completed



**63** countries supported,  
including 37 LDCs and 13  
SIDS



**38 MILLION** people benefited



**\$491 MILLION**  
grant funding secured\*



**\$1.7 BILLION**  
co-financing mobilized

\* Secured from the Green Climate Fund (GCF), Global Environment Facility (GEF), Adaptation Fund (AF) and Systematic Observations Financing Facility (SOFF) (in US\$)

## MAIN AREAS OF SUPPORT

Diversifying technologies and communication channels to reduce system vulnerability

Co-designing tools and services with communities

Improving national and cross-border data sharing

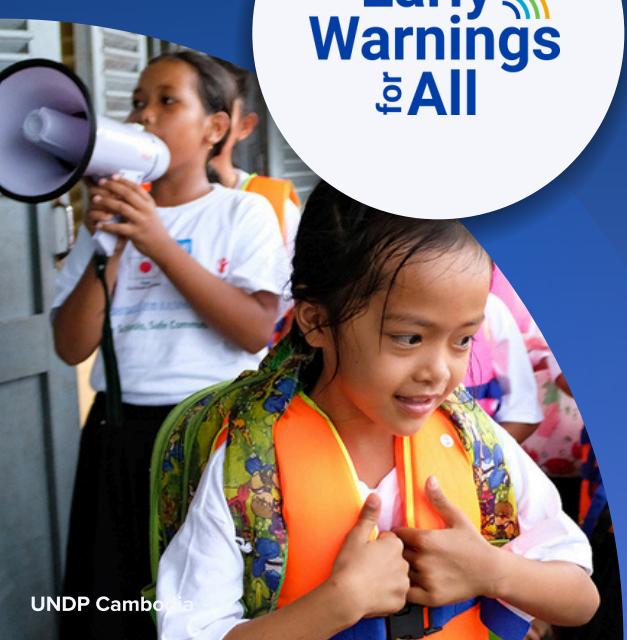
Strengthening the EWS value chain, from data to warnings

Building national capacity for modelling, forecasting and climate analysis

Promoting innovative and alternative technologies

Engaging the private sector to scale impact





## Early Warnings for All

In 2022, the UN Secretary-General called for a global effort to ensure early warning systems protect everyone, everywhere by 2027.

Early Warnings for All brings together the UN system, governments and partners to make this a reality. Led by WMO, UNDRR, ITU and IFRC, the initiative strengthens monitoring, forecasting, risk communication and preparedness. UNDP plays a key role in turning EW4All into action on the ground, supporting countries to strengthen institutions, mobilise finance and ensure early warnings reach the most vulnerable communities.

Alongside its country-level support, UNDP also plays a strong advocacy role as a key partner in the **Risk-informed Early Action Partnership (REAP)**, which brings together climate, humanitarian and development actors to make 1 billion people safer from disasters by 2025, and the **Alliance for Hydromet Development**, a global effort to scale up and align investments to close hydromet capacity gaps by 2030.



# PARNTERING FOR IMPACT



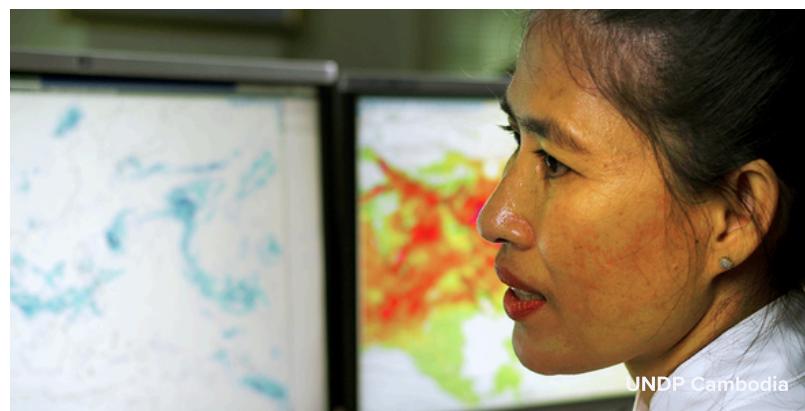
UNDP Malawi



UNDP Pakistan

## MALAWI

In Malawi, with GCF (\$16.3M) and UNDP support, over 225,000 people are benefiting from timely flood warnings, while more than 200,000 farmers are using agro-met advisories to plan planting and harvests — boosting preparedness and resilience.



UNDP Cambodia

## PAKISTAN

In northern Pakistan, with GCF (\$36.9M) and UNDP support, communities in high-risk valleys can receive precious hours of warning before glacial lake floods strike, enabled by 284 early warning stations, some of which monitor dangerous lakes in real time.



UNDP Nepal

## ANTIGUA AND BARBUDA, CAMBODIA, CHAD, ECUADOR, ETHIOPIA, FIJI AND SOMALIA

In 2025, the GCF approved an unprecedented \$103.2 million in grant financing to scale up life-saving early warning systems in seven of the world's most climate-vulnerable countries. Led by UNDP, the five-year project will bolster multi-hazard early warning systems in Antigua and Barbuda, Cambodia, Chad, Ecuador, Ethiopia, Fiji, and Somalia, benefiting more than 26 million people.

## NEPAL

In Nepal, with support from the GCF (\$36.1M) and UNDP, the government is set to expand systems to manage growing hazards related to glacial lake outburst floods, helping protect vulnerable mountain communities.



UNDP Samoa

## SAMOA

In Samoa, with support from GCF (\$65.7M) and UNDP, the government has strengthened flood warning systems – including installing new flood-alert sirens – enabling timely community alerts as flooding becomes more frequent and severe.



UNDP Georgia



UNDP Montenegro

## GEORGIA

In Georgia, with GCF (\$70.3M) and UNDP support, the government is advancing a nationwide multi-hazard early warning system, backed by expanded hydromet networks, high-performance forecasting and comprehensive hazard and risk mapping across all major river basins.

## WESTERN BALKANS

In the Western Balkans, with support from the Adaptation Fund and UNDP, Albania, North Macedonia and Montenegro have developed their first joint, EU-aligned flood risk management strategy, backed by shared data, community input and a five-year action plan. More than 33 upgraded hydromet stations enable cross-border flood monitoring and early warning. Efforts continue with support from the GEF.



UNDP Uzbekistan

## UZBEKISTAN

In Uzbekistan, with support from the GCF (\$40.6M) and UNDP, the government is modernizing the national early warning system for floods, mudflows, landslides and droughts — enhancing the climate resilience of 32 million people.



UNDP Zimbabwe



UNDP Colombia

## ZIMBABWE

In Zimbabwe, with support from the GCF (\$47.8M) and UNDP, national institutions are delivering tailored climate information and advisories to smallholder farmers, boosting productivity and resilience.

## COLOMBIA

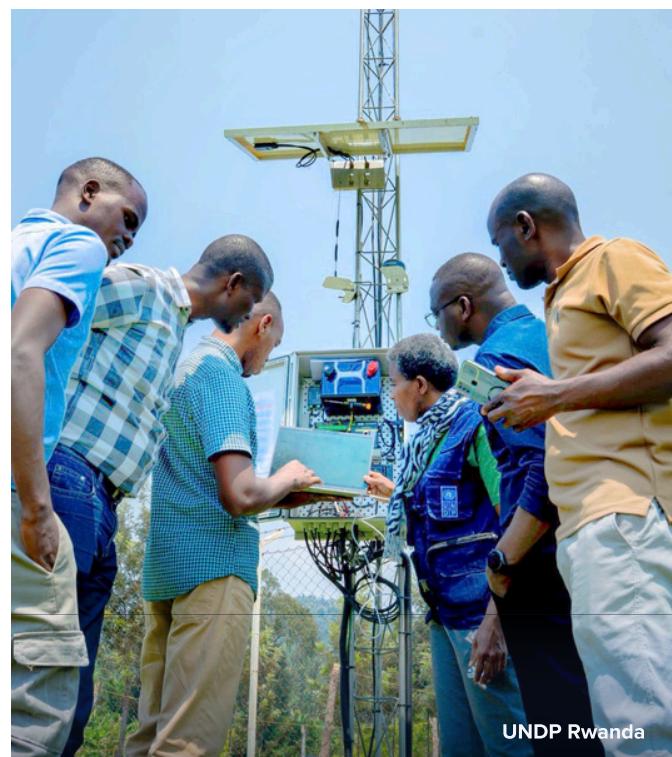
In Colombia's La Mojana region, with support from the GCF (\$38.4M) and UNDP, a local climate forecasting centre now provides daily hydrometeorological alerts and agroclimatic bulletins to producers and communities, reaching around 418,000 people.

# CLOSING THE GAPS IN WEATHER AND CLIMATE DATA

## THE SYSTEMATIC OBSERVATIONS FINANCING FACILITY



Co-created by WMO, UNDP and UNEP, the Systematic Observations Financing Facility (SOFF) is a UN fund closing critical weather and climate data gaps in resource-constrained regions. Through grants and peer-to-peer technical assistance, SOFF helps Least Developed Countries and Small Island Developing States sustain GBON-compliant surface observations—strengthening forecasts, early warnings and climate-resilient development worldwide. As of January 2026, SOFF supports more than 60 countries and serves as a key delivery mechanism for the UN Secretary-General's Early Warnings for All initiative.



### RWANDA

With SOFF support, **Rwanda** has upgraded three weather stations with advanced sensors, data loggers and software. Aligned with GBON standards, the upgrades have improved data quality, reliability and automation, enabling real-time global data exchange.



## **SOLOMON ISLANDS, ETHIOPIA, TANZANIA**

In **Solomon Islands**, SOFF support is strengthening national forecasting capacity by training a new generation of meteorological observers alongside upgrades to key observing infrastructure. In **Ethiopia**, more than 100 meteorological staff have been trained as new and upgraded facilities come online. **Tanzania** is also installing three new upper-air stations, further expanding national observing capacity.

**UNDP OFFERS A PLATFORM  
TO CO-INVEST IN ACTION  
THAT ADVANCES GLOBAL  
PROSPERITY WHILE  
PROTECTING  
THE PLANET.**



**United Nations  
Development Programme**

### **FOCAL POINTS**

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