



# CLIMATE INFORMATION SUPPORTS RESILIENCE

## 2024 PREPARE Snapshot Series

As the world faces worsening climate impacts, people and communities need weather and climate data, forecasts, analyses, and related services to enhance their resilience. Through the President’s Emergency Plan for Adaptation and Resilience (PREPARE), the United States is strengthening climate information services and early warning systems in over 80 countries to equip people and institutions with information to identify and implement the plans, policies, and actions needed to effectively adapt to climate change.

“Early warning systems are a vital tool for addressing the threats posed by climate change and extreme weather. These systems provide critical information to help communities prepare for and respond to environmental hazards. By tracking and predicting weather patterns, they can safeguard the well-being of their communities and mitigate the adverse effects of climate change.”

– Marie Damour, U.S. Ambassador to the Republic of Fiji, Kiribati, Tonga, Nauru, and Tuvalu

## EARLY WARNING SYSTEMS SAVE LIVES AND LIVELIHOODS

Early warning systems provide more than a tenfold return on investment, and just 24 hours warning of a coming storm or heat wave can cut the ensuing damage by 30 percent (Global Commission on Adaptation, 2019). Yet, one third of the global population do not have access to or the ability to use early warning systems and climate information services. PREPARE is responding to the United Nations Secretary General’s [Early Warnings for All](#) initiative to fill this critical gap. Beyond ensuring that early warnings are reaching vulnerable communities, the United States also supports the development of disaster preparedness plans so that these warnings trigger actions that

protect communities and property. For example, prior to receiving disaster preparedness support from the U.S. Agency for International Development (USAID), only one third of people in Bangladesh received cyclone warnings. In 1991, a single cyclone caused 138,000 deaths due to insufficient warning time and lack of information about where people could go for shelter. When Category 4 Cyclone Mocha struck the Bangladesh-Burma border in 2023, USAID-supported warning systems sent timely notifications about its arrival and severity as well as details on nearby USAID-constructed disaster shelters. Although tragically 145 lives were lost, these notifications gave tens of thousands of people time to evacuate and seek shelter.

## CLIMATE INFORMATION SERVICES UNDERPIN ADAPTATION IN ESSENTIAL SECTORS

Climate information services can inform decisions on addressing risks, such as helping farmers decide when and what crops to plant. In Africa’s Sahel region, more than 80 percent of crops are rainfed rather than irrigated, making them highly sensitive to climate change-induced drought and increasingly erratic rain patterns. In 2023, USAID and the National Aeronautics and Space Administration (NASA) worked with the Sahel’s main regional meteorology center to extend forecasts from a few days to more than a month so farmers could make strategic decisions for the current and subsequent growing seasons, such as by switching to crops that are better suited for wetter or drier weather.

Improved climate information services also help health officials direct resources where need is greatest. In Zambia, climate change is contributing to increased frequency and intensity of extreme weather events, which can alter malaria transmission patterns and disrupt prevention and control efforts. The [U.S. President’s Malaria Initiative](#) (PMI), led by USAID and co-implemented with the U.S. Centers for Disease Control and Prevention (CDC), works with Zambia’s National Malaria Elimination Centre to





analyze rainfall and temperature data to inform and adapt malaria interventions. Zambia uses this data to predict when the rainy season will begin and time malaria prevention activities accordingly in communities that are most at risk of flooding. Timely spraying of homes with insecticide before the onset or peak of the rainy season helped to protect 2.4 million people from malaria in 2023. PMI also collaborates with Zambian officials to pre-position essential medicines in communities that are predicted to become inaccessible during the rainy season.

## THROUGH PREPARE, THE U.S. GOVERNMENT IS SUPPORTING THE ENTIRE CLIMATE INFORMATION SERVICES CHAIN IN VULNERABLE COUNTRIES

This includes weather and climate observation and data collection support, the development and delivery of climate information services, and technical training for partners to enhance their ability to provide and use climate information services to improve decision making.

### OBSERVATIONS AND DATA COLLECTION:

Through PREPARE, the United States joined 11 other donors in 2022 to support over 60 climate-vulnerable countries through the [Systematic Observations Finance Facility](#) (SOFF), which aims to close existing weather and climate observation gaps. The SOFF provides funding to install, rehabilitate, and maintain observation infrastructure and to develop human and institutional capacity for weather and climate observation; this is critical for improving weather forecasts, early warning systems, and climate information services.

### DEVELOPMENT AND DELIVERY:

USAID and the National Oceanic and Atmospheric Administration's (NOAA) Famine Early Warning Systems Network (FEWS NET) delivers long-lead early warning of climate emergencies, including the unprecedented five-season 2020-2022 drought in the eastern Horn of Africa, ensuring that national governments and aid agencies plan for and deploy timely humanitarian assistance. FEWS NET also uses climate information services to inform its early warning information and analysis of current and future acute food insecurity. The FEWS NET [Interactive Heat Exposure Projections Map](#) is one example of how PREPARE is responding to the UN Secretary General's Call to Action on Extreme Heat. Decision-makers can identify a population's extreme heat exposure as experienced in the recent past and projected to 2050 to understand the evolution and scale of extreme heat threats.

### TRAINING AND CAPACITY STRENGTHENING:

PREPARE strengthens the capacity of governments to implement and utilize climate information services. For example, in July 2024, the Department of State and NOAA kicked off new support for the Pacific Islands through a multi-hazard climate forecasting and early warning training workshop for forecasters from nine Pacific countries. Immediately after the forecaster training, NOAA piloted a Climate Early Warning Stakeholders workshop for the Meteorological Services of Fiji, Kiribati, and the Solomon Islands. The workshop focused on tracking the impacts of climate change and seasonal weather patterns, such as the El Niño Southern Oscillation, on prolonged droughts and excessive rainfall across the Pacific Islands, and integrating these forecasts into outlook bulletins for stakeholders. Workshops like these help communities and decision makers effectively prepare for climate impacts, reduce losses, and save lives.



USAID Administrator Samantha Power visited the Maldives Meteorological Service. U.S. support is strengthening in-country capacity to integrate climate impacts in weather forecasting.

