



# CLIMATE SERVICES:

## BETTER INFORMATION FOR CLIMATE-RESILIENT DECISION MAKING



Decades of investments and development progress in agriculture, infrastructure, human health, and the environment could be put at risk by changes in temperature, precipitation, and the frequency and magnitude of floods, droughts, and coastal storms. By providing timely, tailored, decision-relevant information to those who need it, climate services help developing countries manage current climate variability and build resilience to future climate change.

### WHAT ARE CLIMATE SERVICES?

Just as weather services provide us with forecasts of daily temperatures and the chance of rain or snow, climate services provide information about longer-term weather conditions. Climate services deliver data, statistical analyses, tools, and other information resources about historical weather patterns and expected future climate conditions – including temperature and precipitation scenarios, sea-level changes, and glacier coverage – and their potential impacts on agriculture, infrastructure, health, and other sectors.

Decision makers can use climate information to help manage current climate risks and build resilience to future climate. For example:

- Farmers can use information about the onset of the next rainy season to inform decisions about which crops to plant and when to plant them.
- Planners and engineers can use long-term climate forecasts to decide where buildings should be sited as floodplains move, or how to design bridges to ensure they can withstand increasingly heavy storms.
- Health agencies can use seasonal rainfall forecasts to assess risks of malaria or dengue fever epidemics and to take precautionary measures.

### THE CLIMATE SERVICES PARTNERSHIP

Launched during the First International Conference on Climate Services held in New York in 2011, the Climate Services Partnership (CSP) is an informal, interdisciplinary network of climate information users, providers, researchers, and donors who work together to improve the development and provision

### RESULTS AT A GLANCE

USAID is helping developing countries use climate services information to build resilience to climate change. USAID supports the following projects:

- SERVIR, a network of global satellite hubs that provide weather and climate information to support health, environment, and disaster preparedness decisions.
- Training meteorologists and others to develop tools to help planners in West Africa understand potential climate hazards.
- Coordination with Jamaican meteorological and agriculture agencies to use climate and weather information to support agricultural decision making.
- Economic estimation of the value of climate services to farmers and other users of climate data.
- Assessment of an innovative climate services program in Mali to identify opportunities for applying its successes in other West African countries.

## LEARNING FROM MALI: HOW TO IMPLEMENT AN EFFECTIVE CLIMATE SERVICES PROGRAM

### THE CHALLENGE

Following several severe droughts in the 1970s and 1980s, the Mali meteorological service and the national agriculture ministry worked with Malian government partners to develop tools to help farmers receive weather forecasts and advice on how to respond to these forecasts. The Mali program has continued for over 30 years, while similar programs in neighboring countries have failed. Anecdotal evidence suggests that the Mali program has been a success, enabling farmers to employ better practices, resulting in higher yields and improved livelihoods.

### THE RESPONSE

The Climate Services Partnership (CSP) is evaluating the Mali program to examine the following issues:

- How farmers receive and apply climate services information.
- The quality of the information communicated to farmers.
- The institutional arrangements and capacities that enabled the program to thrive in Mali.

As these lessons are gathered, they will be communicated to the climate services community to help other programs replicate Mali's successes.

[www.climate-services.org/evaluations/mali-agromet-project](http://www.climate-services.org/evaluations/mali-agromet-project)



Photo by: Francesco Fondella/RI

Farmers in southern Mali listen to radio weather bulletins as they prepare their field for planting.

of climate services across the globe (<http://www.climate-services.org/>). USAID and other CSP members assist developing countries in using climate services information to help achieve agricultural and food security, disaster planning and management, public health, and other development goals. Other objectives are to (1) forge connections among the diverse community of climate services practitioners, (2) capture, share, and disseminate knowledge, experiences and lessons learned, and (3) create new climate services knowledge.

## USAID'S ROLE IN THE CLIMATE SERVICES PARTNERSHIP

USAID provides climate services support to developing countries in the following ways:

**Climate Services Tools and Resources.** USAID collaborates with partners to produce improved climate data sets, models, and other information resources. These tools are facilitating climate-resilient decision-making in developing countries. For example, in Africa, MesoAmerica, and the Hindu Kush/Himalaya region, USAID and NASA support SERVIR, a network of global satellite hubs that offer satellite imagery, weather and climate information, and visualization tools to support decisions affecting health, environment, and disaster preparedness ([www.servirglobal.net](http://www.servirglobal.net)). USAID also supports training of meteorologists and others to develop tools that help planners in West Africa understand potential climate hazards.

**Support to Developing Countries.** USAID works with communities in developing countries to use climate and weather information to support agricultural decision making. For example, USAID coordinated with Jamaica's Meteorological Service and Rural Agricultural Development Authority (RADA) to provide forecasts and early warnings, including seasonal projections of drought, to local farmers. RADA uses this information to guide farmers on their agricultural practices – for example, selecting seed varieties that are most likely to thrive under projected climate conditions. In Latin America, USAID provides small grants that enable farmers to access the best available information about their climate and help them develop informed planting decisions to prevent the crippling crop failures that often accompany El Niño conditions. Climate services also underpin weather index insurance for farmers. USAID is supporting this innovative financial option to enable farmers to protect themselves from financial losses during seasons with extreme weather.

**Evaluation of Climate Services Programs.** Because the concept of climate services is relatively new and the body of knowledge on this subject is continually expanding, USAID and other CSP members recognize the critical importance of ensuring that climate services provide the most effective and useful information possible. USAID assessed the value of weather and climate services to farmers and other end users, and is developing guidance on how to conduct similar economic valuations. USAID is also evaluating an innovative climate services program that has provided agro-meteorological information to rural communities in Mali since the 1980s, when a major drought and famine affected the region. USAID is assessing the impacts of the program and investigating how to apply the program in other West African countries.