

WEATHER AND CLIMATE INFORMATION FOR CLIMATE-RESILIENT DEVELOPMENT

Droughts, floods and other severe weather events have serious consequences for livelihoods and economies in the developing world. Their impacts can push communities further into poverty and erase years of development gains. What's more, climate variability and change can make these events more frequent and more damaging. By tailoring scientific information to development needs, a new collaboration between the International Research Institute for Climate and Society (IRI) and the US Agency for International Development (USAID) is helping to make vulnerable communities more resilient.

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Through this new four-year agreement with USAID, the IRI is developing and mainstreaming new climate services to inform decision making and help vulnerable communities anticipate, plan for, and effectively respond to droughts, floods and other climate-related impacts.

Our activities build on the lessons learned from years of developing and implementing tailored climate-information products for agriculture, water, health and other sectors. The work falls under three themes, representing a comprehensive approach to developing climate services—starting with the development of actionable climate information, continuing with the communication of this information in formats designed to assist development agencies, and finishing with the construction and implementation of adaptation tools such as insurance mechanisms and tailored seasonal forecasts.

Until now, these issues have been tackled piecemeal or purely from a research perspective. The aim of this collaboration is to bridge scientific expertise and the development needs of USAID and its partners.

Theme 1: Research, information, and capacity-building to support regional and global climate services

Because climate change is likely to impact societies through extreme weather and short-lived climate events, the provision of reliable climate information at multiple time scales is essential for planning and early warning.

The first theme addresses the cross-disciplinary challenge of producing climate and weather information that is both actionable

from a development standpoint and scientifically credible.

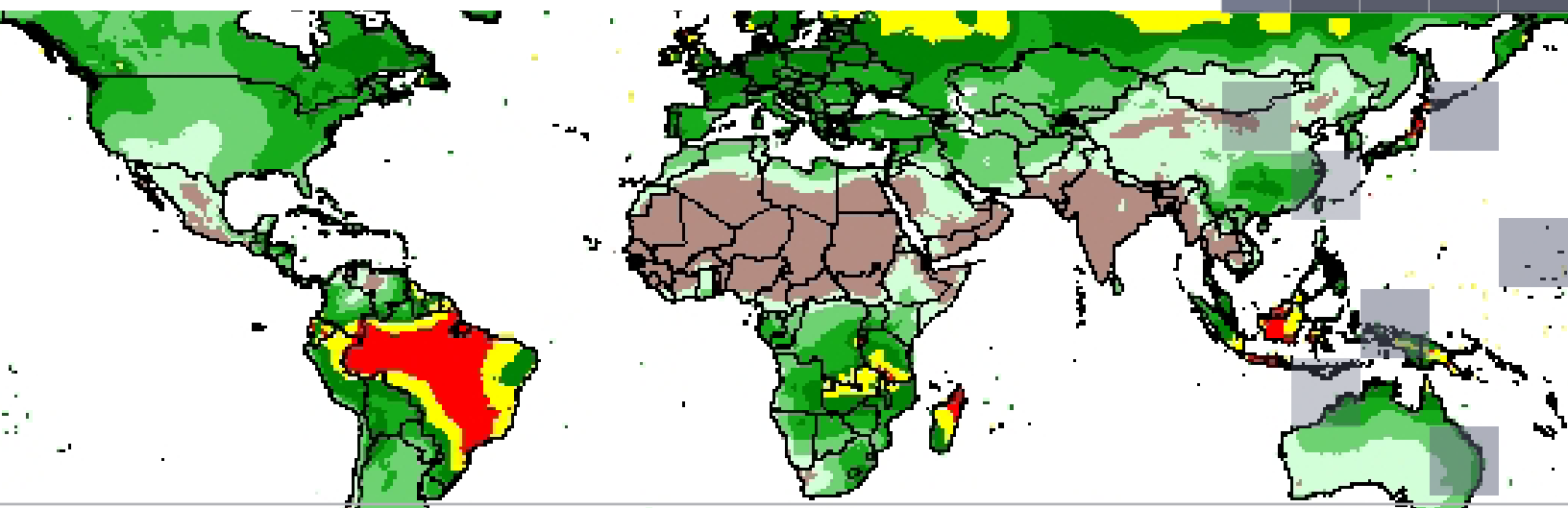
Climate variability and change can affect all sectors of an economy. The new activities will identify specific climate vulnerabilities in key economic sectors to help achieve sustained, climate-resilient development. In West Africa, for example, we are helping national meteorological services make seasonal forecasts of summer monsoon rainfall characteristics critical to rainfed agriculture, including the onset date of the rainy season and dry-day frequency. We will also help these regional providers better understand how climate variability and change may impact these crucial rainfall characteristics. Other examples include predicting the risk of drought-related fires in Indonesia, or landslides and floods in the Caribbean.

The IRI is also developing short training courses aimed at development professionals who seek to use downscaled forecasts and other types of climate information more effectively.



Michael Norton/IRI

CLIMATE-RESILIENT DEVELOPMENT



Credit: IRI Data Library

We are working with various user communities to identify specific needs for climate services. In collaboration with local climate service providers and universities, we are designing tailored state-of-the-art information products using applications such as IRI's *Climate Predictability Tool* to address these needs.

Theme 2. Data development, sharing, and technical guidance

Relevant, accurate climate and socioeconomic data is essential for making decisions on development and resource management, but access is often limited in the developing world. That's why we've worked with Ethiopian partners to create long-term high-resolution climate records. Maps and other information derived from these records are available online. Now we're taking this successful model to other data-sparse regions across Africa.

The project in Ethiopia benefitted enormously from the IRI Data Library (<http://iridl.ideo.columbia.edu>), which is a free, powerful, web-accessible tool that allows users to manipulate, view and download hundreds of data sets through a standard web browser. It plays a prominent and crucial role in scientific and technical communities. More than 60,000 people from 120 countries use it each year. IRI is now adding even more functionality to the Library, as well as creating new high-resolution climate and socioeconomic data sets.

We are developing customized 'map rooms' to communicate complex climate information to decision makers in developing countries in jargon-free language. These resources will utilize common formats to increase accessibility and be available on multiple platforms, including mobile devices and tablets.

Theme 3. Information and tools in support of index insurance as a risk transfer mechanism

Weather-based index insurance is a promising tool for development, climate risk management and adaptation. However, poor data and uncertainties in climate information combined with inconsistent implementation practices could threaten the viability of insurance as a larger scale adaptation instrument in developing countries.

The IRI has already helped identify and address many of the key obstacles to using index insurance to meaningfully address poverty at large scales. Through strategic integration into adaptation and development packages, including USAID interventions, it has overcome hurdles in technology, information and farmer involvement.

Activities over the next four years aim to move index insurance beyond the pilot phase, and support interventions at larger scales globally.

IRI will also deepen the development focus of index insurance and develop ways to link insurance to complimentary USAID climate adaptation, risk management and food-security activities.

On the technical side, IRI will also develop improved rainfall models, build on past efforts with NASA and NOAA to make remote sensing a reliable and robust tool in index insurance, and link climate science to index design.

ABOUT THE IRI

The mission of the IRI is to enhance society's capability to understand, anticipate and manage the impacts of climate in order to improve human welfare and the environment, especially in developing countries. The IRI conducts this mission through strategic and applied research, education, capacity building, and by providing forecasts and information products with an emphasis on practical and verifiable utility and partnership.

ABOUT USAID

USAID is an independent government agency that provides economic development and humanitarian assistance in more than 100 countries. As part of the broader Presidential Global Climate Change Initiative (GCCCI), USAID helps countries build resilience to climate change and move towards a "low carbon" economic growth pathway.