



CLIMATE PROGRAM OFFICE

International Research Institute for Climate and Society

What knowledge, skills, and information can the United States share with decision makers in developing countries to help them plan for and respond to climate variability and change?

What methods will maximize the effectiveness of these resources?

The International Research Institute for Climate and Society (IRI) is a catalyst for the creation and provision of science information that meets the needs of the developing world. IRI is part of the Earth Institute at Columbia University, funded through a cooperative agreement between NOAA and Columbia University.

IRI Objectives

- Assist in the improvement and delivery of climate science that responds to the demands of decision makers in different economic sectors.
- Develop, explore, and evaluate climate risk management strategies.
- Strengthen development through the integration of climate risk management tools and techniques.
- Capture and manage knowledge in order to provide training and share information that supports climate-related risk management.



Malaria parasites are transmitted to humans by mosquitos. IRI funds projects to develop early warning systems that can detect and address climate-related outbreaks of this infectious disease.

Approaches

- IRI seeks solutions that work under real development conditions; establishing effective local partnerships is central to their work.
- IRI develops tools for generating climate information products that are tailored to meet the needs of local decision makers.
- IRI's Education and Outreach Program participates in a range of education efforts, including those that teach professionals about climate influence. It also develops teaching and training materials, and hosts visiting scientists and scholars.

IRI Highlights

IRI Receives Grant for Disease Prediction & Prevention

Google.org, the philanthropic arm of the Internet search company, awarded \$900,000 to IRI to improve the use of forecasts, rainfall data, and other climate information in East Africa to identify connections between weather, climate, and

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IRI Highlights (continued)

disease. The goal of the project is to help health experts better predict potential outbreaks of climate-related diseases such as malaria.

The award is part of Google.org's Predict and Prevent program, which funds projects and technologies that help map global "hot spots" of emerging infectious diseases as part of early-warning systems that predict potential epidemics. By arming resource-poor countries with the information to protect themselves from often fatal but preventable infectious diseases, communities can save lives and improve their overall health and resilience.

"Google.org recognizes just how important the climate-disease connection is to preventing illnesses, saving lives, and protecting livelihoods," said Stephen Zebiak, IRI's Director General. "The IRI, a leader in the use of climate information in disease prevention, is committed to putting this generous grant to critical use in vulnerable areas."

Geographically Based Programs

IRI supports several geographically based programs. The focus of its Africa Program is improving operational management of agriculture, including developing early-warning systems for floods, droughts, and epidemics. The Asia and Pacific Program works to build capacity to better manage climate risks of rain-dependent farmers. The Latin America and Caribbean Program works to improve outcomes in climate-sensitive sectors, taking into account the multifaceted socioeconomic and cultural characteristics of this diverse and varied region. IRI also supports programs for sectors such as Agriculture, Health, Water Resources, and Economics.

IRI Work in the Health Sector

Certain diseases and ill health are associated with particular environmental, seasonal, and climatic conditions. The World Health Organization recently identified 14 climate-sensitive communicable diseases, including malaria, cholera, and dengue. IRI provides forecasting tools and demographic data that enable healthcare workers to assess populations' risks for these diseases and take protective actions at an early stage if an outbreak occurs. IRI supports development of several early warning systems for climate-related health risks.



Participants of the Climate and Health Working Group of Ethiopia

Economics and Livelihoods

IRI has a number of ongoing projects to help societies deal with changing climate conditions. Advances in seasonal climate prediction allow scientists to forecast the probability of shifts in rainfall conditions and crop yields well in advance of the start of the growing season. Reliable forecasts have the potential to reduce the impacts of climate impacts and the perceived risks of variability while helping people take advantage of favorable conditions.

IRI and Water Resources

IRI works with water systems at various scales, focusing on facilitating climate-informed decision making to achieve integrated water resources management. The approach helps developing countries use scarce water resources more efficiently.

IRI Data Library

The IRI Data Library is a powerful and freely accessible on-line data repository and analysis tool that allows users to view, manipulate, and download over 400 climate-related datasets through a standard Web browser. The Data Library, available at <http://ingrid.ideo.columbia.edu>, contains a wide variety of publicly available datasets from NOAA. These include station and gridded atmospheric and oceanic observations, model-based analyses and forecasts, and land surface and vegetation datasets. The Library also offers an interactive data viewer that allows users to visualize multi-dimensional datasets, create animations, and generate plots and maps in a variety of image formats.