

# THE CLIMATE DATA LIBRARY

## Leading Global Efforts to Eliminate Data Poverty

Information and data are critical in tackling the world's newest challenges as well as its most persistent development problems. IRI's Data Library is a freely accessible toolkit that empowers users worldwide to develop science-based approaches for climate-smart planning and decision making. Government agencies, environmental risk and resource managers as well as climate, agriculture and public health professionals rely on the Data Library daily, and it has served as a foundation on which organizations have built data analysis systems tailored to their needs. The Data Library has become a point of access to, and means of understanding, vital metrics in climate and social sciences for our continually changing world.

## A Global Public Good

The Data Library offers free public access to hundreds of high-value data sets and provides the tools and training with which to analyze them and derive useful knowledge for decision making. It compiles raw climate, geophysical, health and agriculture data into a common framework that makes powerful cross-disciplinary research and analysis possible anywhere in the world.

The Data Library is not only a critical mechanism for thousands of users worldwide to access and apply data in their daily work: its underlying technology is being adopted by more countries every year as a platform to make their own information public and usable. The Data Library provides direct access to actionable knowledge for decision makers. For example, the numerous Map Rooms of the Data Library allow users to explore data spatially and temporally and create powerful visualizations that facilitate complex analysis and aid communication of concepts relating to climate and society. Such tools make it easy

for users to tailor information to meet the needs of their target clients, be they meteorologists, resource managers, farmers, government ministries or humanitarian agencies.

## Data to Inform and Empower

Users have access to hundreds of data sources at different scales and resolutions, which they can analyze in a number of ways, ranging from simple averaging to more advanced empirical orthogonal functions using the native Ingrid Data Analysis Language. They can also create visual representations of data, including animations. Both the data and images can be downloaded in a variety of commonly-used formats, including KML and ArcGIS.

Climate data includes historical and projected rainfall levels, sea, surface and air temperatures, and models, forecasts and simulations. Physical data sets include information on ice, hydrology, topography and oceanography. Socio-economic data sets feature information on population,

## A TRANSFORMATIVE TOOL

*Anywhere in the world, users can access the full functionality of the Data Library with only a laptop, an internet connection and web browser.*



West African scientists at a training workshop in AGRHYMET, a regional climate center in Niamey, Niger. Francesco Fiondella/IRI



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for Climate and Society  
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### Highlight: Building a Data Library in Ethiopia

IRI has partnered with Ethiopia's National Meteorological Agency (NMA) to create a local version of the Data Library, operating from Ethiopia and tailored to the NMA's specific climate, agriculture, water and health information needs. The NMA site is a fully functional portable site, able to operate at low bandwidth. It compiles select data from both the main IRI library and NMA's own proprietary data. By helping to craft a custom toolkit for NMA and its staff that is tailored to its organizational priorities and daily needs, IRI has strengthened the institution's capacity for providing services to its clients and for managing and using climate information at a national level.

disease incidence, food security, crop yields and energy use.

Taken together, the Data Library holds a wealth of information for its users to analyze according to their specific objectives and customize to their unique needs.

### Building a Dedicated Community

Each year, IRI's Data Library staff hold training workshops in New York and around the world at national meteorological services, ministries, universities. They develop these workshops around the needs and proficiencies of the specific user communities.

For example, we've worked with the International Federation of Red Cross and Red Crescent Societies to develop a set of interactive maps to help its disaster managers identify upcoming episodes of drought, floods

and extreme weather, and make necessary preparations if needed.

In Chile, we have been working with government and institutional partners to develop a national Drought Monitoring and Early Warning System based on Data Library technology.

Regional and national meteorological centers and climate institutions, such as AGRHYMET in Niger and the Tanzania Meteorological Agency, continually work with IRI to build their human and institutional capacity to use and apply climate data.

The commitment of IRI scientists to the many end users of the Data Library across the world allows us to continually add to and refine the holdings and functionality of the Library's tools to suit the needs of those who rely on it.

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*It used to be that in order to get data for a given place, you'd have to submit a written request to the National Meteorology Agency and then pay according to how much you needed. The process would take at least three days. Now it takes three seconds.*

Tufa Dinku  
Climate Scientist, IRI

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