

## Site Operations Centralized Through New Tracking System

With more than 300 instrument systems operating at remote sites around the globe, ACRF Instrument Mentors can now use the centralized Operations Support System (OSS) to review or provide updates to instrument tracking information in a central database accessible to operations staff throughout the user facility. By consolidating information previously recorded in separate tracking systems for the various ACRF fixed sites, this important new capability will increase efficiency of operations throughout the user facility. In superseding these other systems, the OSS site-wide application improves single-point management and tracking of ACRF assets.

Recognizing the importance of moving to a central tracking system, development and implementation of this new management capability was a monumental task. Initial efforts involved interviewing various operations personnel from all the sites to determine site-specific needs. After prioritizing tasks associated with those needs, work began to develop the system and migrate historical information from the other databases into the new system. Feedback from the initial release resulted in additional design work for usability, as well as a request for additional features related to instrument calibration procedures, shipping and receiving, and even synchronization.



Tracking over 300 instrument systems distributed around the world is a challenging task (ARM Photo).

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*Technical Contact:* Brad W. Orr  
*Phone:* 630-252-8665  
*Email:* brad.orr@anl.gov  
*Editor:* Donna J. Holdridge  
*Contributor:* Lynne Roeder  
*Website:* <http://www.arm.gov>

The OSS is now the standard site-wide application for tracking inventory and events related to ACRF systems and components. In 2009, three additional features are in the design or development phase for this system:

- \* Management of shipping and receiving
- \* Documentation and tracking of instrument calibration
- \* Remote entry, collection, and the associated synchronization of OSS events.

## Breakthrough User Interface Delivers Statistical Views of Data

A new software interface developed for the ACRF Data Archive allows users, for the first time, to view and obtain “statistical views” of measurements collected by ARM as part of the data selection and access process. The new interface allows users to drill down from multi-year, yearly, and monthly statistical graphs, with results presented in an accessible, tabular format. In addition to aligning more closely with the user’s perspective, this tool breaks new ground by demonstrating a new results-based interface that is applicable to large-scale data collections. The Statistical Browser prototype is available through the data access tools on the ARM website.

A survey of existing and potential data users indicated that a preview of ACRF time-series measurements was critical to their decision to work further with ACRF data. In many instances users preferred statistical summaries of the results, not thousands of daily data files and millions of data points. In addition, for data collections the size of the Archive, typical interfaces usually present a very narrow view of the available data. In contrast, the statistical views enable users to gain a sense of large-scale patterns contained in the data to aid in selecting data for closer examination. The statistical views summaries are very much aligned with the logic of climate research focused on modeling long-term trends and patterns. For educators at both undergraduate and graduate levels, the simple displays can be used as an introduction to more complex analyses.



With its “drill-down” preview feature, the Statistical Browser is the first example of a results-based user interface to a data collection on the scale of the Archive in terms of bytes, number of data files, number of measurement types, and longevity (ARM Graphic).

By releasing a prototype of the interface, users can experience the statistical views concept and provide feedback via a comment box on the browser page. This phased implementation will allow the Data Archive team to gather reactions from the user community about the value and potential of the Statistical Browser interface and the descriptions developed for the various views. Users can also provide suggestions for future data products, views, and interface features. The Data Archive team will consider this input in making future decisions about the priorities for either changing the interface or adding data collections to the available views.