



Southern Great Plains Newsletter

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ACRF Far Exceeds User Goal for FY2004

The ARM Climate Research Facility (ACRF) surpassed a major milestone recently. Now that the ARM sites are a designated user facility of the U.S. Department of Energy (DOE) Office of Biological and Environmental Research (<http://www.science.doe.gov/ober/facilities.html>), DOE requires ACRF to measure its success by establishing goals for site use by visitors. ACRF, which has field sites on the North Slope of Alaska and in the Tropical Western Pacific in addition to the SGP site, exceeded its goal of 800 users less than 75% of the way into the fiscal year, reporting a total of 940 users at the end of the third quarter. For this count, a user is either a person who visits a research site or someone who establishes an account with the ACRF data archive to retrieve data for analysis.

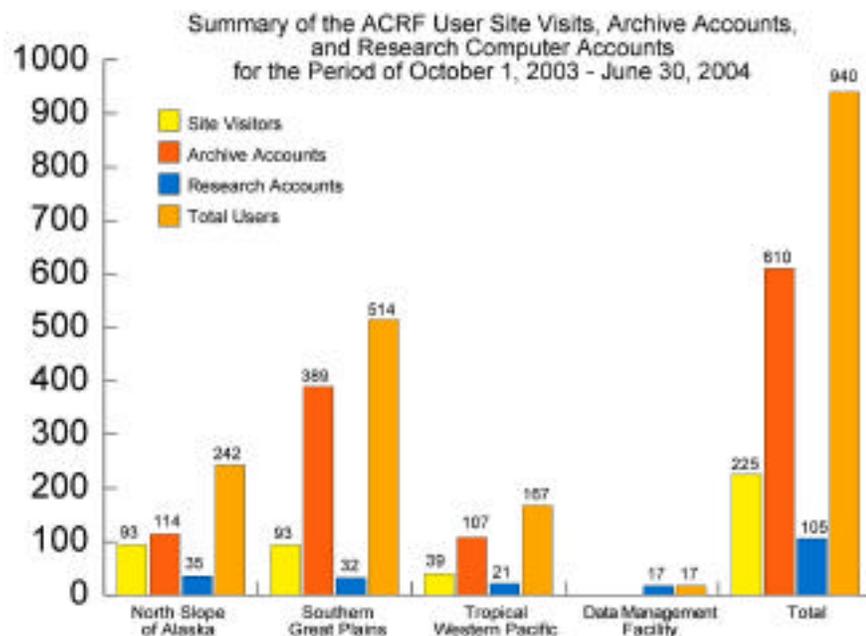


Figure 1. Summary of the ACRF User Site Visits, Archive Accounts, and Research Computer Accounts from October 1, 2003, through June 30, 2004 (ARM graphic).

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Boundary Layer Carbon Dioxide Study Is Scheduled

A new intensive operational period is scheduled for the month of September at the SGP site. A team of researchers from ITT Industries and the National Aeronautics and Space Administration (NASA) Langley Research Center will conduct a validation experiment for a new lidar (light detection and ranging) remote sensing technology used to measure carbon dioxide concentrations in the atmospheric boundary layer. The atmospheric boundary layer is the lower portion of the atmosphere; it is in contact with Earth's surface and contains our weather.

The instrument to be tested will be installed on an airplane that will circle the SGP site at altitudes of 5,000–40,000 feet. The observations collected by the airborne instrument will be compared with ground-based measurements made at the SGP site. The comparisons will be used to validate the performance of the instrument, as well as the retrieval algorithm it employs. This instrument is intended for use in future science missions of NASA and the National Oceanic and Atmospheric Administration.

ACRF Education and Outreach Program Shines

The ARM Program and ACRF take pride in the ACRF educational outreach effort. A stipulation of DOE's funding for ACRF is to provide educational resources to anyone interested in learning more about climate sciences, weather, research techniques, or instrumentation. ACRF maintains a web page (<http://education.arm.gov/>) that brings education and outreach information to communities, students, and teachers.

The "Homeroom" page of the outreach web site summarizes the outreach program and links visitors to events, news, publications, kiosks, site tours, and more.

The "Study Hall" page focuses on students. Linked here are facts about global warming, an "Ask a Scientist" page where students can interact with ARM scientists, current climate news stories, a "Cool Sites" page with links to other informative web sites, and information about ACRF and the ARM Program.

The "Teacher's Lounge" page contains resources for teachers, including links to teacher workshops, lesson plans, a curriculum development page, and student projects that use actual ARM data sets.

The ACRF Education and Outreach Program strives to promote basic science awareness by increasing skills needed to understand environmental science and climate change studies. ACRF aims to build relationships between scientists, teachers, students, and the community. For more information about the Education and Outreach Program, please visit the web site or contact the following:

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Climate Capsule

"Climate Capsule" is a new monthly feature introducing climate and weather definitions.

Hydrologic Cycle

: the sequence of conditions through which water passes — from vapor in the atmosphere through precipitation on land or water surfaces and ultimately back into the atmosphere as a result of evaporation and transpiration.