The mission of the U.S. Department of Energy Atmospheric Radiation Measurement (ARM) Climate Research Facility, a DOE Office of Science User Facility, is to provide the climate research community with strategically located in situ and remote-sensing observatories designed to improve the understanding and representation, in climate and earth system models, of clouds and aerosols as well as their interactions and coupling with the Earth’s surface. ARM operates three fixed atmospheric observatories (in Oklahoma, Alaska, and the Azores), three mobile facilities, and an aerial facility to collect data on cloud, aerosol, and atmospheric processes that impact the Earth’s energy balance. In order to provide information to study land-atmosphere interactions and their impact on boundary layer processes, ARM also provides measurements of surface carbon and energy fluxes, soil moisture and temperature profiles, and trace gases at many of its sites. All ARM data is freely available to the scientific community through the ARM archive (http://www.archive.arm.gov/discovery/). ARM encourages proposals from the scientific community for deployment of its mobile and aerial facilities, and for field campaign activities at its fixed observatories.