

***USING ARM OBSERVATIONS TO EVALUATE NWP RESULTS
OF RADIATION AND CLOUD FRACTION***

Wu, W., O'Connor, E. J., Liu, Y., Hogan, R. J., and Betts, A. K.

Presented at the
DOE Integrated Climate Change Modeling Science Team Meeting,
Gaithersburg, MD
March 29-April 02, 2010

**Environmental Sciences Department/Atmospheric Sciences Division
Brookhaven National Laboratory**
P.O. Box, Upton, NY
www.bnl.gov

ABSTRACT

This poster will present the results from:

- 1) Evaluating NWP model performances in simulating surface cloud radiative forcing measured by effective cloud albedo and total cloud fraction by comparing three major reanalysis datasets (ERA-Interim, NCEP/NCAR Reanalysis and NCEP/DOE Reanalysis) against decade-long ARM observations;
- 2) Examining the relationships between the model biases of the cloud properties and those of near-surface relative humidity and temperature;
- 3) Evaluating NWP model performances in simulating vertical profiles of cloud fraction; and,
- 4) Evaluating NWP model skill scores of predicting cloud fraction.

NOTICE: This manuscript has been authored by employees of Brookhaven Science Associates, LLC under Contract No. DE-AC02-98CH10886 with the U.S. Department of Energy. The publisher by accepting the manuscript for publication acknowledges that the United States Government retains a non-exclusive, paid-up, irrevocable, world-wide license to publish or reproduce the published form of this manuscript, or allow others to do so, for United States Government purposes.