

AN EXAMINATION OF OBSERVATIONALLY BASED CLOUD FRACTION ESTIMATES OVER THE SOUTHERN GREAT PLAINS FROM DIFFERENT PLATFORMS

Wei Wu¹, Yangang Liu¹, Michael P. Jensen¹, Tami Toto¹, Michael J. Foster², Charles N. Long³

¹ Atmospheric Sciences Division, Brookhaven National Laboratory, Upton, NY 11973

² Cooperative Institute for Meteorological Satellite Studies, University of Wisconsin, Madison, WI 53706

³ Pacific Northwest National Laboratory, Richland, WA 99352

For presentation at the
Atmospheric System Research
2013 Science Team Meeting,
Potomac, MD
March 18-21, 2013

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

ABSTRACT

1997-2011 observationally based cloud fraction estimates from various different platforms over the Southern Great Plains, United States are investigated at multiple temporal and spatial scales. A substantial disagreement is found among different estimates. The statistical significance of the differences between different estimates is tested. The cause of the differences between different estimates is examined. Results from this study suggest that caution is needed when using cloud fraction estimates to evaluate climate models or infer climate variations, and highlight the need of improving the accuracy and consistency of various cloud fraction products.

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