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PROVE MQUALS REFLECTANCE AT JORNADA EXPERIMENTAL RANGE, NEW MEXICO, 1997

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Summary:

This study utilized low flying, aircraft-based radiometers for optical characterization of top-of-the-canopy reflectance at Jornada Experimental Range in New Mexico during the Prototype Validation Experiment (PROVE) in May 1997. "MQUALS" refers to a light aircraft radiometric package for MODLAND Quick Airborne Looks (MQUALS). The objective was to examine the usefulness of low-flying aircraft for Moderate Resolution Imaging Spectroradiometer (MODIS) validation of land products. This project was the responsibility of the MODIS Land (MODLAND) validation group. The descriptive article by Huete et al. (1999) is included as a companion file to this data set.

Multiband radiometers (Exotech) were flown at 100 m above ground level along transects encompassing several land cover types within this semi-arid biome validation site. Pointable radiometers acquired data at nadir (i.e., 0 degree), as well as at 15-degree, 30-degree, and 45-degree viewing angles along the principal and orthogonal planes. The sequence of measurements involved two separate sun angle-based overflights.

More information about MQUALS, PROVE, and the Jornada LTER site can be found on-line at <http://tbrs.arizona.edu/project/MQUALS/index.php> from the Terrestrial Biophysics and Remote Sensing (TBRs) Laboratory, University of Arizona, Tucson, Arizona, U.S.A.

Further information about PROVE and links to related Web sites can be found at <http://www.daac.ornl.gov/PROVE/prove.html>.

Data Citation:

Cite this data set as follows:

Huete, A. R. 2003. PROVE MQUALS Reflectance at Jornada Experimental Range, New Mexico, 1997. ORNL DAAC, Oak Ridge, Tennessee, USA. <http://dx.doi.org/10.3334/ORNLDAAC/666>.

References:

Havstad, K. M., W. P. Kustas, A. Rango, J. C. Ritchie, and T. J. Schmugge. 2000. Jornada Experimental Range: A unique arid land location for experiments to validate satellite systems. *Remote Sensing of the Environment* 74(1):13-25.

Huete, A., F. Keita, K. Thome, J. Privette, W. J. D. van Leeuwen, C. Justice, and J. Morisette. 1999. A light aircraft radiometric package for MODLAND quick airborne looks (MQUALS). *The Earth Observer* 11(1):22.

Huete, A., K. Didan, T. Miura, E. P. Rodriguez, X. Gao, L. and G. Ferreira. 2002. Overview of the radiometric and biophysical performance of the MODIS vegetation indices. *Remote Sensing of Environment* 83:195-213.

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Data Format:

Data were collected on May 23 and 25, 1997. The three CSV data files for each day reflect the principal, orthogonal, and off-nadir radiometer positions on each flight. Each file internally contains this information, along with the flight location and time (fraction of hour), view azimuth, view zenith, solar azimuth, and solar zenith values. Reflectance values are reported for 4 MODIS-band filters on the Exotech radiometer: Band 1 (623-670 nm), Band 2 (838-876 nm), Band 3 (456-475 nm), and Band 4 (544-564 nm).

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