

Comparison of AIRS Retrievals and Dedicated Validation Observations

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ABSTRACT

The EOS project office supports a number of field experiments providing data for comparison with AIRS observations. These include dedicated radiosondes, ozone and humidity sondes, cloud and water vapor lidars, infrared spectrometers and Global Positioning System receivers. These observations are timed to coincide with Aqua satellite overpasses, thus minimizing errors from atmospheric variability. These dedicated observations have measurement uncertainties better than the AIRS system specifications, and the meteorological context of many are well characterized through additional observations. We describe here the data sets acquired by the AIRS dedicated validation experiments. Also presented are initial comparisons between AIRS retrievals and these dedicated observations, including direct comparisons of land and sea surface temperatures, profiles of temperature, water vapor and ozone, plus total ozone and water vapor. Indirect comparisons of cloud fraction are also discussed.