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The observations included high spatial resolution imaging radiometry at eighteen wavelengths and active lidar cloud top profiling. Analysis involving cloud top water content and height spectra was applied to some of the extensive lidar observations of the 1987 field experiment. Extensive remote sensing observations of marine stratus clouds were acquired from the NASA ER-2 aircraft during the 1987 FIRE stratus field experiment. For the spectral imaging radiometry observations of the marine stratus, a potentially useful result was obtained. For near infrared wavelengths, a large number of the bidirectional reflectance observations included persistent and significant single scattering features. Analysis of these data can provide results to both enhance and extend aircraft in-situ cloud physics observations. Derivation of cloud top radiative parameters and comparison to in-situ observations are planned.