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# Validation of surface temperature determination with ASTER thermal infrared data

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Simultaneous observations of ground brightness temperatures and the multi-spectral thermal infrared observations from the Advanced Spaceborne Thermal Emission and Reflection (ASTER) radiometer were made on 6 occasions between 2001 and 2003 at the Jornada Experimental Range in New Mexico, USA. This arid site is well suited for the comparison because low humidity minimizes atmospheric effects. The ASTER data were atmospherically corrected using NCEP profiles adjusted for local conditions. The ground measurements were made with handheld broadband radiometers at 49 locations over a 30 x 30 m grid at 6 different sites representative of the range of land cover conditions at the Jornada. The average broadband brightness temperature was generally found to be within the range of the brightness temperatures observed by the 5 ASTER bands.