

## **The Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) on NASA's Terra Spacecraft**

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The Advanced Spaceborne Thermal Emission and Reflection Radiometer, ASTER, is an international project: the instrument was supplied by Japan's Ministry of Economy Trade and Industry and is flying on NASA's Terra satellite. A joint US/Japan science team developed the science data products, and is validating instrument performance and data products. With its 14 bands, extremely high spatial resolution, and 15 meter along-track stereo capability, ASTER is the zoom lens for the other Terra instruments. The primary mission goals are to characterize the Earth's surface; and to monitor dynamic events and processes that influence habitability at human scales. ASTER was launched in December 1999, and since then has acquired over 600,000 images of the land surface. The data are first processed in Japan, then they are archived and distributed in both Japan, and in the US through the EROS Data Center Distributed Active Archive Center. Data are available as Level 1 images, geometrically and radiometrically corrected. In addition, higher level, geophysical data products are available on demand. These include atmospherically corrected reflectance and radiance at the surface; kinetic temperature; emissivity; and digital elevation models. In the US, a web-based system provides browse and order capability for ASTER, and a wide range of other EOS and non-EOS data. The use of ASTER data for a wide range of earth science applications has grown dramatically since launch. Several examples will be presented to illustrate the unique capabilities of ASTER, and its synergistic use with other remote sensing instruments.