The Shuttle Radar Topography Mission

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The Shuttle Radar Topography Mission (SRTM), is a cooperative project between NASA and the National imagery and Mapping Agency of the U.S. Department of Defense. A formal memorandum of understanding to develop and conduct the mission was finalized on July 8, 1996. The mission is designed to use a single-pass radar interferometer to produce a digital elevation model of the Earth's land surface between about 60 degrees north and south latitude. The DEM will have 30 m horizontal resolution and about 15 m vertical errors. A rectified C-band image mosaic is also planned to be produced.

SRTM will use the same radar instrument that comprised the Spaceborne imaging Radar-C/X-band Synthetic Aperture Radar (SIR-C/X-SAR) that flew twice on the Shuttle Endeavour in 1994. SIR-C/X-SAR was a cooperative project between NASA and the German and Italian Space Agencies and obtained data for over 50 science investigations. To collect the interferometric data, a 60 m mast, additional C-band antenna, and improved tracking and navigation devices will be added. A second X-band antenna is also planned to be added by the German Space Agency, which will produce higher resolution topographic measurements in strips nested within the full, C-band coverage.

The SRTM flight is currently manifested for September 1999; data processing will take approximately 1 year.

* Work performed under contract to NASA.

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