

Land Processes Distributed Active Archive Center



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EDG Data Set Name ASTER L1A Reconstructed Unprocessed Instrument Data

Granule Shortname
AST_L1A

Data Set Characteristics

Area: ~60 km x 60 km

Image Dimensions:

- VNIR: 4200 rows x 4100 columns
- VNIR (3B): 5400 rows x 5000 columns
- SWIR: 2100 rows x 2048 columns
- TIR: 700 rows x 700 columns

File Size:

- VNIR (1,2,3N) = 51,660,000 Bytes
- VNIR (3B) = 23,000,000 Bytes
- SWIR (4-9) = 25,804,800 Bytes
- TIR (10-14) = 4,900,000 Bytes
- Total = 107 Megabytes

Spatial Resolution:

- VNIR = 15 m
- SWIR = 30 m
- TIR = 90 m

Data Format: HDF-EOS

Vgroup Data Fields: 15



Product Description

The ASTER instrument aboard the Terra satellite has a complement of three different telescopes with varying pointing capabilities. Data derived from ASTER are primarily generated based on Data Acquisition Requests (DARs) from users. Level-1 datasets are produced at the Ground Data System (GDS) in Tokyo, Japan, and sent to the Land Processes (LP) Distributed Active Archive Center (DAAC) for archiving and distribution. The ASTER Level-1A product contains reconstructed, unprocessed instrument digital data derived from the telemetry streams of the 3 telescopes and their respective ground resolutions: Visible Near Infrared (VNIR), 15 m, Shortwave Infrared (SWIR), 30 m, and Thermal Infrared (TIR), 90 m. These depacketized, demultiplexed, and realigned instrument image data have their geometric correction coefficients and radiometric calibration coefficients calculated and appended but not applied. It also includes corrections for the SWIR parallax, and intra- and inter-telescope registration information. The EOS Data Gateway (EDG) also provides browse images for each of the Level-1A VNIR, SWIR, and TIR data groups that can be viewed and/or requested.

Vgroup Data Fields/ Spectral Range (µm)	Units	Data Type	Valid Range	Telescope Pointing Capability
VNIR (15 Meters)				

Band 1 (0.52 - 0.60)	Digital Counts	8-bit unsigned integer	0 - 255	+/- 24°
Band 2 (0.63 - 0.69)	Digital Counts	8-bit unsigned integer	0 - 255	+/- 24°
Band 3N (0.78 - 0.86)	Digital Counts	8-bit unsigned integer	0 - 255	+/- 24°
Band 3B (0.78 - 0.86)	Digital Counts	8-bit unsigned integer	0 - 255	+/- 24°
SWIR (30 Meters)				
Band 4 (1.600 - 1.700)	Digital Counts	8-bit unsigned integer	0 - 255	+/- 8.55°
Band 5 (2.145 - 2.185)	Digital Counts	8-bit unsigned integer	0 - 255	+/- 8.55°
Band 6 (2.185 - 2.225)	Digital Counts	8-bit unsigned integer	0 - 255	+/- 8.55°
Band 7 (2.235 - 2.285)	Digital Counts	8-bit unsigned integer	0 - 255	+/- 8.55°
Band 8 (2.295 - 2.365)	Digital Counts	8-bit unsigned integer	0 - 255	+/- 8.55°
Band 9 (2.360 - 2.430)	Digital Counts	8-bit unsigned integer	0 - 255	+/- 8.55°
TIR (90 Meters)				
Band 10 (8.125 - 8.475)	Digital Counts	16-bit unsigned integer	0 - 65535	+/- 8.55°
Band 11 (8.475 - 8.825)	Digital Counts	16-bit unsigned integer	0 - 65535	+/- 8.55°
Band 12 (8.925 - 9.275)	Digital Counts	16-bit unsigned integer	0 - 65535	+/- 8.55°
Band 13 (10.25 - 10.95)	Digital Counts	16-bit unsigned integer	0 - 65535	+/- 8.55°
Band 14 (10.95 - 11.65)	Digital Counts	16-bit unsigned integer	0 - 65535	+/- 8.55°

Order Data through the EOS Data Gateway

(<http://edcimswww.cr.usgs.gov/pub/imswelcome/>)

EOS Data Gateway Search Tips

Data Center: EDC-ECS
Sensor: ASTER
Dataset: ASTER L1A Reconstructed Unprocessed Instrument Data
Geographic Extent: Type latitude/longitude range or delineate a geographic search window
Temporal Extent: March 8, 2000 to present

Product Information

[ASTER Level-1 Data Products Specifications Document - Download Acrobat Reader](http://asterweb.jpl.nasa.gov/documents/ASTER%20Data%20Product%20Specification.pdf)
(<http://asterweb.jpl.nasa.gov/documents/ASTER%20Data%20Product%20Specification.pdf>)

[Algorithm Theoretical Basis Document \(ATBD\)](http://eospsso.gsfc.nasa.gov/atbd/astertables.html)
(<http://eospsso.gsfc.nasa.gov/atbd/astertables.html>)

[ASTER Standard Data Products Catalog](http://asterweb.jpl.nasa.gov/documents/ASTERHigherLevelUserGuideVer2May01.pdf)
(<http://asterweb.jpl.nasa.gov/documents/ASTERHigherLevelUserGuideVer2May01.pdf>)

[ASTER JPL Web Page](#)

(<http://asterweb.jpl.nasa.gov>)

[EOS Data Products Handbook Volume 1 \(2000\)](#)

(http://eosps0.gsfc.nasa.gov/eos_homepage/misc_html/data_prod.html)

Contact Information

[LP DAAC User Services](#)

U.S. Geological Survey

EROS Data Center

47914 252nd Street

Sioux Falls, SD 57198-0001

Phone: 605-594-6116

Toll Free: 866-573-3222

866-LPE-DAAC

Fax: 605-594-6963

Email: edc@eos.nasa.gov

Web: <http://edcdaac.usgs.gov>

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Technical Contact: edc@eos.nasa.gov

Last Update: Wednesday, 19-Mar-2003 09:17:35 CST

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