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EDG Data Set Name

ASTER Expedited L1A Reconstructed Unprocessed Instrument Data

Granule Shortname

AST_L1AE

Data Set Characteristics

Area: ~60 km x 60 km

Image Dimensions:

VNIR: 4200 rows x 4100 columns

SWIR: 2100 rows x 2048 columns

TIR: 700 rows x 700 columns

File Size:

VNIR (1, 2, 3N) = 51,660,000 Bytes

SWIR (4 through 9) = 25,804,800 Bytes

TIR (10 through 14) = 4,900,000 Bytes

Total = 85 Megabytes

Spatial Resolution:

VNIR = 15 m

SWIR = 30 m

TIR = 90 m

Data Format: HDF-EOS

Vgroup Data Fields: 14



Product Description

The ASTER Expedited L1A Reconstructed Unprocessed Instrument Data is produced with the express purpose of providing the ASTER Science Team members data of their particular interest in quick turn-around time from the moment the data are acquired. This is usually done to support on-going field calibration and validation efforts or to support emergency response to natural disasters when processed Level-1 data with minimum turn-around time would prove beneficial in initial damage or impact assessments. This data set is expected to be publicly available for a period of 30 days after which time it will be removed from the archive. This is done because the routinely processed (Production Data Set or PDS) version of this data set will be available from Japan in due course and available for search and order from the LP DAAC archives. ASTER Expedited Data Sets (EDS) serve the short-term requirements of a small group of scientists and fulfill immediate imagery needs during times of natural disasters.

The general product description details as described for the [ASTER Level-1A Data Set - Reconstructed, Unprocessed Instrument Data](#) apply to the expedited data set with a few notable exceptions. These include:

- the Expedited Level - 1A data set does not contain the VNIR 3B (aft-viewing) Band
- this data set does not have short-term calibration for the Thermal Infrared (TIR) sensor
- the registration quality of this data set is likely to be lower, and also vary from scene to scene

The Level-0 data downlink from the Tracking Data Relay Satellite System (TDRSS) at White Sands, NM is received at the EOS Data Operations System (EDOS) facility at the Goddard Space Flight Center (GSFC). Following some pre-processing, EDOS directly transmits that data (via the GSFC DAAC) to LP DAAC where the data are processed and the level-1 EDS is produced. The ASTER Level-1AE product contains reconstructed, unprocessed instrument digital data derived from the telemetry streams of the 3 telescopes at their respective ground resolutions: Visible Near Infrared

(VNIR), 15 m, Shortwave Infrared (SWIR), 30 m, and Thermal Infrared (TIR), 90 m. There is no browse product provided for the expedited L1A data set.

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°
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 Expedited 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%20Prodcut%20Specification.pdf>)

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

[ASTER Standard Data Products Catalog](#)
(<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://eospsso.gsfc.nasa.gov/eos_homepage/misc_html/data_prod.html)

Contact Information

[LP DAAC User Services](#)

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