

Metadata and Traceability of ASTER Data Products

Metadata associated with Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) data products facilitate discovery, search, access, and traceability across the data lifecycle. These metadata are provided at both the collection- and granule (file)- level enabling users to identify, access, and interpret data products effectively.

Collection-level metadata describe overall product characteristics, including product name, version, processing level, spatial and temporal coverage, and data provider information. These metadata support dataset-level discovery and enable users to identify appropriate data collections for their analysis. Detailed descriptions and examples of metadata fields are provided in ASTER product user guides and associated product documentation (see [ASTER Product User Guide](#)).

Granule-level metadata provide detailed, file-specific information such as acquisition date and time, geographic extent, processing date, and unique identifiers. These metadata enable precise search and access to individual data files and support subsetting and filtering based on spatial, temporal range, and other criteria.

Metadata also capture key traceability elements, including processing information (e.g., Product Generation Executable [PGE] version), calibration inputs, and relevant ancillary data sources, where applicable. These elements allow users to understand how data products were generated and support reproducibility of results. For example, granule-level metadata can be used to identify the PGE version used to produce a dataset, which in turn corresponds to specific calibration inputs (e.g., RCC versions) and ancillary datasets used during processing. This linkage enables users to trace the lineage of a data product from input data through processing and calibration.

ASTER metadata are managed and made accessible through NASA Earthdata systems, including the NASA Common Metadata Repository (CMR), which provides metadata-driven discovery, search, and access across datasets. Through these systems, users can locate, access, and retrieve ASTER data products using standardized metadata interfaces.

Together, these metadata components provide the necessary context for discovery, access, and interpretation of ASTER data products, while supporting long-term preservation and usability in accordance with Preservation Content Specification (PCS) requirements.