

209-CD-032-001

EOSDIS Core System Project

**Interface Control Document Between
the EOSDIS Core System (ECS) and
the Science Investigator-Led
Processing Systems (SIPS)
Volume XXX
ECS-ASTER DEM Data Flows**

July 1999

Raytheon Systems Company
Upper Marlboro, Maryland

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Preface

This document is a formal contract deliverable with an approval code 1. It requires Government review and approval prior to acceptance and use. This document is under ECS contractor configuration control. Once this document is approved, Contractor approved changes are handled in accordance with Class I and Class II change control requirements described in the EOS Configuration Management Plan, and changes to this document shall be made by document change notice (DCN) or by complete revision.

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Abstract

ASTER Digital Elevation Model (DEM) data is transferred from the ASTER DEM Operations Machine to ECS Ingest using the standard SIPS interface as defined in Volume 0 of the ECS-SIPS ICD. The entire interface is behind the ECS firewall at the EROS Data Center DAAC.

Keywords: ASTER DEM, data types, ESDT, ingest, PDR, PDRD, PAN, polling, SIPS,

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1. Introduction

1.1 Scope

This volume provides information specific to the interface at the EROS Data Center DAAC (EDC) for transfer of ASTER Digital Elevation Model (DEM) data into the ECS. It does not address operational procedures that may form the context for the system interface with ECS. This volume does not address generally applicable technical specifications for this interface, which are maintained in Volume 0 of the ECS-SIPS ICD.

Included are:

- Documentation references.
- Context and infrastructure information for the ASTER DEM-ECS interface.
- Identification of ASTER DEM products transferred to ECS for archive and distribution. Data product granule size and transfer frequency are included.

1.2 Purpose

This volume supplements Volume 0 of the ECS-SIPS ICD with interface configurations and data type specifications specific to the ASTER DEM-ECS interface.

1.3 Mission Description

Authorized users use a Web Form (On Demand Form; ODFRM) to enter orders for ASTER on-demand products, including the ASTER DEM product. When an ASTER DEM order has been entered using the form, an e-mail specifying the order is sent to a configurable e-mail account for the ASTER DEM operator at the EDC DAAC. (Note: The specification and format for this e-mail will be documented in a TBD appendix to this document.) The ASTER DEM operator then carries out the steps necessary for approval of the order by the ASTER Science Team, production of the requested product, and ingest of the product into the ECS archives. Ingest of the ASTER DEM product is accomplished using the standard SIPS interface, as documented in Volume 0 of the ECS-SIPS ICD.

ASTER DEM products for which production is approved are permanently archived in the ECS.

1.4 SIPS-Unique Requirements

None

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2 References

2.1 Parent Documents

423-41-57 Goddard Space Flight Center, Interface Control Document
Between the EOSDIS Core System (ECS) and the Science
Investigator-Led Processing Systems (SIPS), Volume 0.

2.2 Applicable Documents

423-42-03 Goddard Space Flight Center, Responsibilities for Standard
Product Generation Using Science Investigator-Led Processing
Systems

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3 ASTER DEM SIPS Interface Specifics

3.1 Interface Context

This interface occurs within the ECS firewall at the EDC DAAC. As shown in Figure 3-1, the “SIPS side” of the interface is the ASTER DEM Operations Machine, managed by the ECS ASTER DEM operator. The PDR server consists of a directory managed by the ECS ASTER DEM operator.

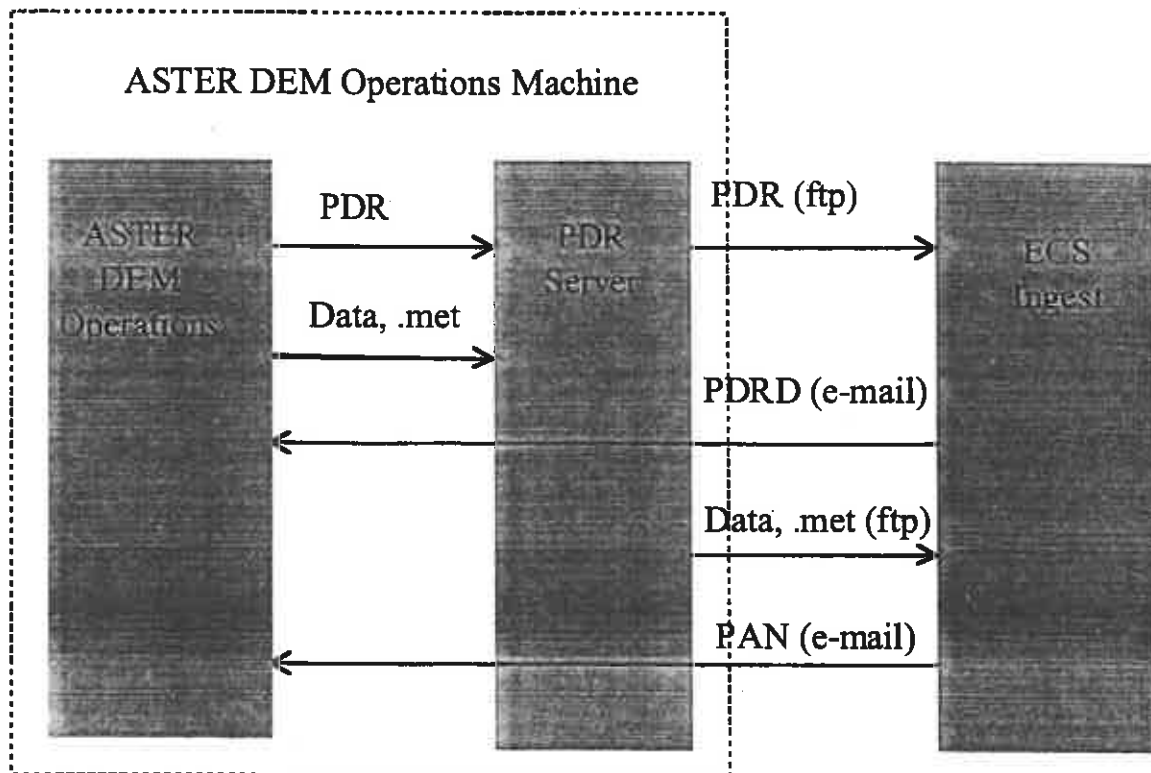


Figure 3-1. ASTER DEM PDR Interface Data and Message Flows.

3.2 Network Topology

The ASTER DEM Operations Machine is part of the EDC production network. It is connected to ECS Ingest via FDDI. The EDC production network configuration is included in the ECS Technical Baseline, which can be viewed on the Web at URL <http://cmdm.east.hitc.com/baseline/index.html>. Select the EDC Hardware/Network Diagram (921-TDE-002).

3.3 Standing Order Subscriptions

Because the ASTER DEM product is generated only on demand, Section 4.3 of the ECS-SIPS ICD does not apply: standing order subscriptions will not be used to obtain input data. The specific Level 1A or Level 1B stereo pair needed as input to fill a DEM product request must be ordered via the EOS Data Gateway. Level 1B data may have to be obtained through a data acquisition request.

3.4 ASTER DEM Products Produced by EDC DAAC for Delivery to ECS at the EDC DAAC.

The ASTER DEM operations provides one Data Type, as defined in Table 3-1, to the ECS once a day, using the Polling with Delivery Record interface specified in Section 4.5, Volume 0, ECS-SIPS ICD.

Table 3-1. EOS Standard Data Products

Data Type ShortName	FILE_TYPE ¹	Collection Description	Granule Size	Transfer Frequency
AST14DEM	HDF-EOS and METADATA	ASTER DEM product	12 MB	One data file per day

¹ Per Table 4.5-4, Volume 0 of the ECS-SIPS ICD.

3.5 SIPS Interface Specifics

Figure 3-1 summarizes the data flows between ASTER DEM Operations and the ECS. Daily, the ECS ASTER DEM operator places on the PDR server specified for the ingest interface, an ASTER DEM data file, a metadata file and a PDR file specifying the location of the data file and the .met file. The PDR server is a directory on the ASTER DEM Operations machine.

The PDR contains one file group, consisting of the AST14DEM file and its metadata file. The ASTER DEM operator controls the PDR server, which is in close proximity to the ECS ingest operator. Thus the operators can easily coordinate on file management of the PDR server, and the EXPIRATION_TIME parameter is omitted from the PDR. Linkage files are not currently used. The ORIGINATING_SYSTEM parameter is ASTERDEM.

With operator-tunable periodicity, ECS Ingest polls the PDR server and retrieves the PDR file when found. The ECS automatically returns PDRDs, as required, and PANs via e-mail to the ASTER DEM operator using an agreed-on address.