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Release B Interface Requirements Analysis

White Paper

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RESPONSIBLE ENGINEER

Mark S. Alabastro /s/ 8/30/95

Mark S. Alabastro, Member of the Technical Staff Date
EOSDIS Core System Project

SUBMITTED BY

George S. Percivall III /s/ 8/30/95

George S. Percivall III, ECS Release B Chief Engineer Date
EOSDIS Core System Project

Hughes Information Technology Corporation
Upper Marlboro, Maryland

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Abstract

The Release B Interface Requirements Analysis white paper develops an initial baseline for ECS Release B system interfaces. This white paper discusses the four major types of interfaces as follows:

- Subsystem to subsystem interfaces
- ISS to external interface analysis
- Subsystem to external interfaces as implied by an Interface Requirements Document analysis
- DAAC-to-DAAC and SMC interface analysis

This white paper is intended to be circulated and modified by the Release B team members and the appropriate community to reflect the evolving definition and understanding of the ECS system.

Keywords: baseline, interface, Level 3, Level 4, CI level

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Abstract

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Abbreviations and Acronyms

1. Introduction

1.1 Purpose

This document is an analysis of the ECS system interfaces from subsystem to subsystem; from the Internetworking subsystem (ISS) to external; from subsystem to external; and from DAAC-to-DAAC and SMC. Methodologically, this interface analysis is focused on the Level 4 requirements as opposed to the design. The main reason for doing this is to ensure that a distributed computing environment captures all the original functions of the ECS system.

The end goal of this document is to define an interim baseline crucial to the independent development of Level 4 based CI's by subsystem groups. Additionally, this interim baseline is done in preparation for the 304 document(s). Therefore, this paper will be evolving until a common baseline is agreed upon.

1.2 Organization

This paper is organized as follows:

- The initial results of the ECS interface analysis of subsystem to subsystem.
- The initial results of the ECS interface analysis of the ISS subsystem to an external network or system.
- The initial results of the ECS interface analysis of ECS subsystem to an external system.
- The initial results of the ECS interface analysis of DAAC-to-DAAC and of SMC.
- The future plans for this white paper.

1.3 Review and Approval

This White Paper is an informal document approved at the Office Manager level. It does not require formal Government review or approval; however, it is submitted with the intent that review and comments will be forthcoming.

The ideas expressed in this White Paper are valid from 2 August 1995 to 15 September 1995.

Questions regarding technical information contained within this paper should be addressed to the following ECS contacts:

- Mark S. Alabastro, Member of the Technical Staff - Associate , 301. 925.1054, malabast@eos.hitc.com
- George S. Percivall III, ECS Release B Chief Engineer, 301. 925.0368, perciva@eos.hitc.com

Questions concerning distribution or control of this document should be addressed to:

Data Management Office
The ECS Project Office
Hughes Information Technology Corporation
1616 McCormick Drive
Upper Marlboro, MD 20774

2. ECS Subsystem to Subsystem Interface Analysis

2.1 Information Sources for Subsystem to Subsystem Interfaces

To accomplish the subsystem to subsystem interface analysis, document #423-41-02, *Functional and Performance Requirements Specification for the Earth Observing System Data and Information Systems (EOSDIS) Core System*; dated 25 April 1995; with CH-01, CH-02, CH-03, CH-04, and CH-06 incorporated; and document #305-CD-002-002, *Science Data Processing Segment (SDPS) Segment Design Specification for the ECS Project*, were examined and an initial set of interface requirements was developed. This initial set of interface requirements was then discussed with the SDPS and CSMS subsystem groups and assignments of interface requirements to subsystem (for analysis, design, and implementation) were made. Additionally the client subsystem, CLS, has the appropriate mappings to the operator or user.

The notion of an ECS operator and user is introduced in the following manner. All ECS operators and users, be it internal or external, will be using ECS software and/or hardware. All ECS users will be using a subset of the tools provided by CLS. ECS operators will be using a subset of the tools provided by CLS in addition tools provided by any given subsystem, i.e. PLS' planning tools. Therefore, we need to distinguish the tools provided to an ECS operator and an ECS user.

It should be noted that we use terms like "subscription request" and "subscription". Subscription request comes from a source requesting subscription information. This request is sent to the appropriate subsystem where the necessary processing is done. The resultant information, called a "subscription" is then sent back to the originator of the request. In general, "x request" is sent the appropriate subsystem and the requester receives "x".

A "data acquisition request" and "product request" are not the same. A data acquisition request is a user request for a satellite to obtain data, this acquisition request does not go out and retrieve stored data but is sent to flight operations for planning and scheduling. After the data has been collected, the user must then issue a product request. Product requests are transparent to the user in the manner that a particular product is already stored, has a need to be generated, or needs to be subsetted on the fly.

At this time User-IOS interfaces, in addition to interface issues between MSS and DPS-PLS are TBR.

2.2 Understanding of ECS Internal Interfaces

The current understanding of the internal interfaces between ECS subsystems is presented in Table 2-1. Additionally, Figure A-1 in Appendix A provides an N^2 diagram illustrating the data flows between subsystems.

Table 2-1. ECS Subsystem to Subsystem Analysis Results

Node	Source	Destination	Data Flow
1	User	CLS	a. search request b. service advertisement request c. subscription request d. valids list request e. dependent valids request f. search request g. browse request h. product request i. data acquisition request j. data processing request k. session management request l. subscription m. cost estimate request n. product status request
2	CLS	User	a. search result b. service advertisement c. subscription notification d. valids list e. dependent valids f. search results g. browse result h. product i. data acquisition result j. data processing result k. session management response l. subscription notification m. cost estimate n. product status
3 (TBR)	User	IOS	a. service advertisement search b. provider advertisement search c. product advertisement search
4 (TBR)	IOS	User	a. service advertisement b. provider advertisement c. product advertisement
5	User	CSS	a. virtual terminal service b. email c. ftp d. bulletin board
6	CSS	User	a. virtual terminal service b. email c. ftp d. bulletin board

7	Operator	IOS	a. service advertisement b. provider advertisement c. product advertisement
8	IOS	Operator	a. service advertisement b. provider advertisement c. product advertisement
9	Operator	DMS	a. schema information
10	DMS	Operator	a. schema information
11	Operator	INS	a. control message
12	INS	Operator	a. operations data
13	Operator	DPS	a. AI&T commands b. processing operation commands
14	DPS	Operator	a. processing ops b. command responses c. processing display updates d. data products e. visualized images
15	Operator	PLS	a. planning commands b. production requests
16	PLS	Operator	a. planning command responses b. plan display c. informational displays
17	Operator	MSS	a. customer information b. report generation
18	MSS	Operator	a. customer information b. report
19	Operator	CSS	a. system administration information
20	CSS	Operator	a. system administration information
21	CLS	IOS	a. advertisement search request b. subscription c. advertisement d. software and documents
22	IOS	CLS	a. advertisement b. subscription notification c. software and documents

23	CLS	DMS	a. valids list request b. dependent valids request c. search request d. browse request e. product request f. data acquisition request g. data processing request h. data subsetting request i. session management request j. subscription
24	DMS	CLS	a. valids list b. dependent valids c. search results d. browse result e. product f. data acquisition result g. data processing result h. data subsetting result i. session management response j. subscription notification
25	CLS	DSS	a. search request b. browse request c. product request d. data acquisition request e. data processing request f. data subsetting request g. session management request h. subscription i. cost estimate request j. product status request
26	DSS	CLS	a. search result b. browse result c. product d. data acquisition result e. data processing result f. data subsetting result g. session management response h. subscription notification i. cost estimate j. product status

27a	CLS	MSS	a. user registration request b. user registration status request c. user profile information request d. user comment e. processing status f. current mode g. detected hardware faults (TBR) h. detected software faults (TBR) i. resource utilization j. account balance status request k. account information l. event notification
27b	IOS	MSS	a. processing status b. current mode c. detected hardware faults (TBR) d. detected software faults (TBR) e. resource utilization f. event notification
27b	DMS	MSS	a. processing status b. current mode c. detected hardware faults (TBR) d. detected software faults (TBR) e. resource utilization f. event notification
27c	DSS	MSS	a. processing status b. current mode c. detected hardware faults d. detected software faults e. resource utilization f. status of data distribution g. TDRSS schedule request h. record of data orders i. product pricing request j. event notification
27d	INS	MSS	a. processing status b. current mode c. detected hardware faults d. detected software faults e. resource utilization f. data delivery record g. data delivery notice h. event notification

27d	DPS	MSS	a. processing status b. current mode c. detected hardware faults d. detected software faults e. resource utilization g. accounting/resource accountability h. access/security records
27d	PLS	MSS	a. processing status b. current mode c. detect hardware faults d. detected software faults e. resource utilization f. plans and schedules g. planned vs. actual scheduling information h. event notification
28a	MSS	CLS	a. user registration information b. user registration status c. user profile information d. user comment survey e. mode request f. account status g. lifecycle commands h. billing costs
28b	MSS	IOS	a. lifecycle commands b. mode request
28b	MSS	DMS	a. lifecycle commands b. mode request
28c	MSS	DSS	a. lifecycle commands b. mode request c. detailed science plans d. product thread information e. data transfer requests f. product pricing result
28b	MSS	INS	a. lifecycle commands b. mode request
28d	MSS	DPS	a. lifecycle commands b. mode request c. resource availability information
28e	MSS	PLS	a. lifecycle commands b. mode request
29a	CLS	CSS	a. user authentication request b. COMMON FACILITIES

29a	IOS	CSS	a. user authorization request b. COMMON FACILITIES
29a	DMS	CSS	a. user authorization request b. COMMON FACILITIES
29b	DSS	CSS	a. COMMON FACILITIES
29b	INS	CSS	a. COMMON FACILITIES
29b	DPS	CSS	a. COMMON FACILITIES
29b	PLS	CSS	a. COMMON FACILITIES
29c	MSS	CSS	a. COMMON FACILITIES b. lifecycle commands c. mode request
30a	CSS	CLS	a. user authentication response b. COMMON FACILITIES
30a	CSS	IOS	a. user authorization response b. COMMON FACILITIES
30a	CSS	DMS	a. user authorization response b. COMMON FACILITIES
30b	CSS	DSS	a. COMMON FACILITIES
30b	CSS	INS	a. COMMON FACILITIES
30b	CSS	DPS	a. COMMON FACILITIES
30b	CSS	PLS	a. COMMON FACILITIES
30c	CSS	MSS	a. COMMON FACILITIES b. processing status c. current mode d. detected hardware faults e. detected software faults f. event notification g. resource utilization information
31	IOS	DMS	a. ECS Valid mapping request b. advertisement c. subscription notification
32	DMS	IOS	a. ECS Valid mapping result b. advertisement search request c. advertising subscription d. advertisement
33	IOS	DSS	a. subscription notification b. advertisement
34	DSS	IOS	a. advertisement subscription b. advertisement search request c. advertisement
35	IOS	INS	a. advertisement b. subscription notification
36	INS	IOS	a. advertisement subscription

37	IOS	DPS	a. advertisement
38	DPS	IOS	a. advertisement subscription
39	IOS	PLS	a. advertisement
40	PLS	IOS	a. advertisement subscription
41	DMS	DSS	a. search request b. access request c. package information request d. schema request e. definition request f. subscription request g. session management request
42	DSS	DMS	a. search result b. access request response c. package information result d. schema e. data definition f. subscription notification g. session management response
44	INS	DSS	a. metadata b. non L0 data store
45	DSS	DPS	a. subscription notification b. ACQUIRE command response c. INSERT command response d. staged data (PGE, metadata, L0 to L4 data, ancillary data, calibration coefficient)
46	DPS	DSS	a. subscription b. ACQUIRE commands c. INSERT commands d. output data (destaged data)
47	DSS	PLS	a. subscription notification b. granule information c. data availability schedule d. data availability schedule notice e. stored plans f. FOS schedules g. on demand production request

48	PLS	DSS	a. subscription b. data query c. data availability schedule (and corresponding metadata) d. candidate plans e. active plans f. on demand production request status
49	INS	DPS	a. L0 data b. ACQUIRE command response c. subscription notification
50	DPS	INS	a. ACQUIRE command b. subscription
51	INS	PLS	a. subscription notification b. data
52	PLS	INS	a. subscription b. data request
53	DPS	PLS	a. processing status b. PGE profile information
54	PLS	DPS	a. data processing request information b. scheduling commands c. PGE profile information
55	MSS	ISS	a. Diagnostic Test Request
56	ISS	MSS	a. Diagnostic Test Results

3. ECS Internetworking Subsystem to External System/Network Interface Analysis

The Internetworking subsystem to external system/network interface analysis involves the physical or direct ISS connection to either a DAAC or network as represented in Appendix A, Figure A-2. It does not capture the logical interfaces which is why there are no connections from GSFC DAAC, MSFC DAAC, LaRC DAAC, and JPL DAAC to EDOS.

Interfaces to NOC, SN, and WOTS are not shown because these interfaces are to EBnet and are the responsibility of an external organization. Additionally, there is not an associated data flow table for ISS to system/network since ISS handles all data flows.

4. ECS Subsystem to External System Interface Analysis

4.1 Information Sources for Subsystem to External System Analysis

To accomplish the subsystem to external system interface analysis, document #304-CD-002-002, *Science and Data Processing Segment (SDPS) Requirements Specification for the ECS Project*, March 1995; document #304-CD-004-002, *Communications and System Management Segment (CSMS) Requirements Specification for the ECS Project*, March 1995; the external interface requirements from the Interface Requirements Documents: 101-DID-NUM-001, 194-219-SE1-001, 194-219-SE1-002, 194-210-SE1-004, 194-210-SE1-005, 194-219-SE1-018, 194-219-SE1-019, 194-219-SE1-020, 194-CD-003-002, 194-CD-006-003; and document #313-CD-004-001, *Release A CSMS/SDPS Internal Interface Control Document for the ECS Project* were examined and an initial set of interface requirements was developed. This initial set of interface requirements was then discussed with the SDPS and CSMS subsystem groups and assignments of interface requirements to subsystems were made.

Specific mission data flows are not reflected in this section, please refer to Section Five which captures mission specific data flow. NSIDC has no specific IRD; therefore, requirements for NSIDC are contained in the V0 IRD. If there are any potential external interfaces with NSIDC it would be documented else where, i.e. NOAA ADC ICD for the transfer of ancillary data, SSM/I, between NSIDC and NOAA. Certain issues about NSIDC are TBR.

Sage III and SEAWINDS are identified as data sources, despite that they are missions due to the fact there is not a specific ICD that specifies a facility that collects the data. Sage III and SEAWINDS are TBR.

4.2 Understanding of ECS Subsystem to External Interfaces

The current understanding of the interfaces between ECS subsystems to external systems is presented in Table 4-1. Additionally, Figure A-3 in Appendix A provides an N^2 diagram illustrating the data flows between subsystem to external system.

There are implied flows to and from CSS given the fact that CSS is the layer that provides access, security, and communications protocols.

Table 4-1. ECS Subsystem to External Interface Analysis Results

Node	Source	Destination	Data Flow
9	CLS	Landsat 7 IAS (IAS as ECS User)	a. metadata (daily delivery via subscription of "previous day's" (TBD" Level 0R metadata files received from LPS) b. search request c. service advertisement request d. subscription request e. valids list request f. dependent valids request g. search request h. browse request i. product request j. data acquisition request k. data processing request l. session management request m. subscription n. cost estimate request o. product status request
15	CLS	Landsat 7 MOC (MOC as ECS User)	a. metadata (daily delivery via subscription of "previous day's" (TBD) Level 0R metadata files received from LPS) b. search request c. service advertisement request d. subscription request e. valids list request f. dependent valids request g. search request h. browse request i. product request j. data acquisition request k. data processing request l. session management request m. subscription n. cost estimate request o. product status request

17	CLS	• ASTER GDS • ASF • CSA • Landsat 7 LPS • Landsat 7 IGS • Landsat 7 MMO • SCFs • PI/TL workstations • SAA • NMC • NOAA data center • GSFC SDPF • LIS SCF • CERES SCF • GSFC TSDIS • V0 DAACs • NSI-NOC • FDF • EDOS • SEAWINDS V0 source (TBR) • SAGE III V0 source (TBR)	a. interactive session dialog (e-mail) b. search request c. service advertisement request d. subscription request e. valids list request f. dependent valids request g. search request h. browse request i. product request j. data acquisition request k. data processing request l. session management request m. subscription n. cost estimate request o. product status request

18	• ASTER GDS • ASF • CSA • Landsat 7 LPS • Landsat 7 IAS • Landsat 7 IGS • Landsat 7 MMO • Landsat 7 MOC • SCFs • PI/TL workstations • SAA • NMC • NOAA data center • GSFC SDPF • LIS SCF • CERES SCF • GSFC TSDIS • V0 DAACs • NSI-NOC • FDF • EDOS • SEAWINDS V0 source (TBR) • SAGE III V0 source (TBR)	CLS	a. interactive session dialog (e-mail) b. search result c. service advertisement d. subscription notification e. valids list f. dependent valids g. search results h. browse result i. product j. data acquisition result k. data processing result l. session management response m. subscription notification n. cost estimate o. product status
84	SAA	IOS	a. advertising information
85	IOS Per the IRD the items in *italics* are Release C interfaces, however, CIDM was planning for these in Release B. This will be resolved in the coming weeks. (TBR) indicate interfaces that should exist but their exact nature has not yet been defined for Release B	SAA	a. advertising information
88	NOAA data center	IOS	a. advertising information
104	V0 DAACs	IOS	a. advertising information

126	ASTER GDS	DMS	a. browse request b. browse result c. DAR Database Information d. DAR status e. directory metadata f. guide search request g. guide search result h. inventory search request i. inventory search result j. Level 1A ancillary data k. Level 1A browse l. Level 1A data product m. Level 1A metadata n. Level 1B - Level 4 data products o. product delivery status p. product delivery status request q. product generation request r. product request
127	DMS	ASTER GDS	a. ancillary data sets b. ASTER DARs c. browse request d. browse result e. correlative data sets f. DAR status request g. data availability schedule h. dependent valids i. guide search request j. guide search result k. inventory search request l. inventory search result m. Level 0 - Level 4 Data products n. long term instrument plans o. long term science plans p. orbit data anomaly notification q. product delivery status r. product delivery status request s. product generation request t. product request u. repaired orbit data

128	ASF	DMS	a. browse data b. catalog query c. product request
129	DMS	ASF	a. catalog query result b. data product c. film generation request d. production job request
130	CSA	DMS	a. query response
131	DMS	CSA	a. CSA product request b. CSA query
142	SCFs	DMS	a. calibration coefficients request b. calibration coefficients update package c. data production software d. data production software delivery package e. data production software updates f. documents g. initial data production software specifications h. On Time QA i. QA notification specification j. reprocessing request k. request for data to QA l. request for processing status m. request for product history
143	DMS	SCFs	a. calibration coefficients b. data delivered for QA c. data production software specification requirements d. data quality request notification e. processing status f. product history g. reprocessing request template h. reprocessing status i. test products j. toolkit delivery and update package
145	DMS	PI/TL workstations	a. IST Toolkit delivery

146	SAA	DMS	a. browse request b. browse result c. cost estimate (TBR) d. cost estimate request e. guide query f. guide query result g. inventory query h. inventory query result i. product delivery status j. product delivery status request k. product request
147	DMS	SAA	a. algorithm package (TBR) b. browse request c. browse result d. cost estimate (TBR) e. cost estimate request (TBR) f. guide query g. guide query result h. inventory query i. inventory query result j. product delivery status k. product delivery status request l. product request m. valids information (TBR)
149	DMS	NMC	a. ancillary data request (TBR) b. product availability query (TBR)
158	GSFC TSDIS	ECS (MSFC DAAC) - DMS	a. algorithms b. browse data products c. documentation d. GV data e. Level 1A-3 PR, TMI, combined data products f. metadata
159	ECS (MSFC DAAC) - DMS	GSFC TSDIS	a. algorithms b. ancillary non-TRMM data (SSM/I, GPCC, GPCP) c. archived Level 1A-3 PR, TMI, combined data products d. browse data products e. documentation f. archived GV data g. metadata

159	ECS (GSFC DAAC) - DMS	GSFC TSDIS	a. algorithms b. ancillary non-TRMM data (NMC) c. archived Level 1A-1B VIRS data products d. browse data e. documentation f. metadata
160	V0 DAACs	DMS	a. browse request b. browse result c. guide search request d. guide search result e. inventory search request f. inventory search result g. operational migration ancillary data h. static migration browse data i. static migration correlative data j. static migration data products k. static migration documentation l. static migration metadata m. operational migration data products n. operational migration browse data o. operational migration metadata p. operational migration coordination q. pricing information r. product request
167	DMS	V0 DAACs	a. browse request b. browse results c. guide search request d. guide search results e. inventory search request f. inventory search results g. operational migration coordination h. pricing information i. product request
180	FDF	DMS	a. repaired orbit data b. orbit data quality check c. repaired orbit data request

181	DMS	FDF	a. orbit data quality check b. repaired orbit data request c. telemetry subsets
188	ASTER GDS	DSS	a. data availability schedule
192	CSA	DSS	a. CSA catalog interoperability
193	DSS	CSA	a. CSA catalog interoperability
217	ECS (MSFC DAAC) - DSS	LIS SCF	a. expedited processed data
219	ECS (LaRC DAAC) - DSS	CERES SCF	a. expedited processed data
221	GSFC SDPF	GSFC TSDIS	a. definitive/predicted orbit data b. Level 0 data c. expedited data
229	DSS	V0 DAACs	a. dependent valids
239	INS	Landsat 7 LPS	a. acknowledgment (Data Delivery Notice)
250	ASTER GDS	ECS (EDC) - INS	a. dependent valids
252	ASF	INS	a. data product b. metadata c. film product d. expedited data
256	Landsat 7 LPS	INS	a. Level 0R inventory metadata b. Level 0R data (subinterval image files, calibration data, payload correction data and mirror scan correction data) c. Level 0R Browse d. data availability notice
258	Landsat 7 IAS	INS	a. calibration information (calibration coefficient files) b. metadata updates (update to L7 0R data metadata received from LPS)
260	Landsat 7 IGSs	INS	a. IGS browse b. IGS inventory
266	SCFs	INS	a. ancillary data b. calibration data c. correlative data d. Level 1 - Level 4 special products e. metadata update (too vague need to be more specific) f. special products metadata g. test product review
267	DPS	SCFs	a. I & T requirements

270	SAA	INS	a. algorithm package b. ancillary data c. spacecraft schedule
272	NMC	INS	a. ancillary data b. product availability list (TBR)
276	GSFC SDPF	ECS (MSFC DAAC) - INS	a. definitive/predicted orbit data b. Level 0 data c. expedited data
276	GSFC SDPF	ECS (LaRC DAAC) - INS	a. definitive/predicted orbit data b. Level 0 data c. expedited data
282	GSFC TSDIS	ECS (GSFC DAAC) - INS	a. algorithms b. browse data products c. documentation d. Level 1A-1B VIRS data products e. metadata
288	SEAWINDS V0 source (TBR)	INS	a. defined/predicted orbit data b. L0 data c. expedited data
290	SAGE III V0 source (TBR)	INS	a. defined/predicted orbit data b. L0 data c. expedited data
312	ASTER GDS	MSS	a. network management information b. network management information request c. system management information d. schedule adjudication data
313	MSS	ASTER GDS	a. network management information b. network management information request c. system management information d. schedule adjudication data e. long term science plan f. long term instrument plan
314	ASF	MSS	a. ASF-unique statistical accounting information
315	MSS	ASF	a. request status and status information
316	CSA	MSS	a. user/organization approval response

317	MSS	CSA	a. user/organization approval request
324	Landsat 7 MMO	MSS	a. system management status b. product cost information c. user registration information
325	MSS	Landsat 7 MMO	a. reports (too vague need to be more specific) (TBD in IRD) b. statistics (too vague need to be more specific) (TBD in IRD) c. system management status d. user registration data
328	SCFs	MSS	a. request for resource usage
329	MSS	SCFs	a. resource usage
332	SAA	MSS	a. network management information (TBR)
333	MSS	SAA	a. network management information (TBR)
354	NSI - Network Operations Center	MSS	a. fault notification/status b. reports of link utilization c. notification of security breaches
355	MSS	NSI - Network Operations Center	a. notification of security breaches
360	EDOS	MSS	a. PDS Delivery Records b. EDS Delivery Records

5. DAAC-to-DAAC and SMC Interface Analysis

5.1 Information Sources for DAAC-to-DAAC and SMC System Interface Analysis

To accomplish the DAAC-to-DAAC and SMC interface analysis, document #409-CD-001-003, *ECS Overall System Acceptance Test Plan for Release A*, February 1995, and document #423-41-02, *Functional and Performance Requirements Specification for the Earth Observing System Data and Information Systems (EOSDIS) Core System*, dated 25 April 1995, with CH-01, CH-02, CH-03, CH-04, and CH-06 incorporated were examined and an initial set of interface requirements was developed.

5.2 Understanding of DAAC-to-DAAC and SMC Interfaces

The current understanding of the DAAC-to-DAAC and SMC interfaces is presented in Table 5-1. Additionally, Figure A-4 in Appendix A provides an N^2 diagram illustrating the data flows between subsystems. What Table 5-1 and Figure A-4 do not capture is the DAAC-to-DAAC interfaces concerning Inter-DAAC and Cross-DAAC Communications, Inter-Operability, and Data Transfer. This applies to

- ECS at the GSFC DAAC, GSFC V0 DAAC
- ECS at the MSFC DAAC, MSFC V0 DAAC
- ECS at the LaRC DAAC, LaRC V0 DAAC
- ECS at the EDC DAAC, EDC V0 DAAC
- ECS at the JPL DAAC, JPL V0 DAAC
- ECS at the NSIDC DAAC, NSIDC V0 DAAC
- ECS at the ORNL DAAC, ORNL V0 DAAC
- ECS a the ASF DAAC, ASF V0 DAAC

These nodes were omitted because, Table 5-1 and Figure A-4 only capture unique DAAC-to-DAAC interfaces. These interfaces are implied in Figure A-4.

Table 5-1. DAAC-to-DAAC and SMC Interface Analysis Results

Node	Source	Destination	Data Content
1	SMC at GSFC	ECS at the GSFC DAAC	a. Schedule & Status Information b. Performance Monitoring & Analysis c. WAN Management d. ECS coordination

2	SMC at GSFC	ECS at the MSFC DAAC	a. Schedule & Status Information b. Performance Monitoring & Analysis c. WAN Management d. ECS coordination
3	SMC at GSFC	ECS at the LaRC DAAC	a. Schedule & Status Information b. Performance Monitoring & Analysis c. WAN Management d. ECS coordination
4	SMC at GSFC	ECS at the EDC DAAC	a. Schedule & Status Information b. Performance Monitoring & Analysis c. WAN Management d. ECS coordination
5	SMC at GSFC	ECS at the JPL DAAC	a. Schedule & Status Information b. Performance Monitoring & Analysis c. WAN Management d. ECS coordination
6	SMC at GSFC	ECS at the NSIDC DAAC	a. Schedule & Status Information b. Performance Monitoring & Analysis c. WAN Management d. ECS coordination
7	SMC at GSFC	ECS at the ORNL DAAC	a. Schedule & Status Information b. Performance Monitoring & Analysis c. WAN Management d. ECS coordination
8	SMC at GSFC	ECS at the ASF DAAC	a. Schedule & Status Information b. Performance Monitoring & Analysis c. WAN Management d. ECS coordination
9	SMC at GSFC	ASTER GDS	a. Schedule and Status Information of Instruments
10	ECS at the GSFC DAAC	ECS at the EDC DAAC	a. MODIS Level 2 Data
10a	ECS at the GSFC DAAC	EDC V0 DAAC	a. MODIS Level 2 Data
11	ECS at the GSFC DAAC	ECS at the NSIDC DAAC	a. MODIS Level 2 Data
11a	ECS at the GSFC DAAC	NSIDC V0 DAAC	a. MODIS Level 2 Data

13	ECS at the GSFC DAAC	GSFC V0 DAAC	a. Data Requests & Coordination
16	ECS at the MSFC DAAC	MSFC V0 DAAC	a. Data Requests & Coordination
19	ECS at the LaRC DAAC	LaRC V0 DAAC	a. Data Requests & Coordination
21	ECS at the EDC DAAC	ASTER GDS	a. Algorithm Insertion Coordination b. DAR Dialog c. ECS Ancillary & Correlative Data d. ASTER Product Request & Status e. User Data Search & Order Dialog
32	ECS at the GSFC DAAC	SMC	a. Schedule & Status Information b. Performance Information c. DAAC Coordination
33	ECS at the MSFC DAAC	SMC	a. Schedule & Status Information b. Performance Information c. DAAC Coordination
34	ECS at the LaRC DAAC	SMC	a. Schedule & Status Information b. Performance Information c. DAAC Coordination
35	ECS at the EDC DAAC	SMC	a. Schedule & Status Information b. Performance Information c. DAAC Coordination
36	ECS at the EDC DAAC	ECS at the GSFC DAAC	a. Data Requests & Coordination
36a	EDC V0 DAAC	ECS at the GSFC DAAC	a. Data Requests & Coordination
37	ECS at the JPL DAAC	SMC	a. Schedule & Status Information b. Performance Information c. DAAC Coordination
38	ECS at the NSIDC DAAC	SMC	a. Schedule & Status Information b. Performance Information c. DAAC Coordination
39	ECS at the NSIDC DAAC	ECS at the GSFC DAAC	a. Data Requests & Coordination
39a	NSIDC V0 DAAC	ECS at the GSFC DAAC	a. Data Requests & Coordination
40	ECS at the ORNL DAAC	SMC	a. Schedule & Status Information b. Performance Information c. DAAC Coordination
41	ECS at the ASF DAAC	SMC	a. Schedule & Status Information b. Performance Information c. DAAC Coordination

42	ASTER GDS	SMC at GSFC	a. Schedule & Status Information of Instruments
46	ASTER GDS	ECS at the EDC DAAC	a. DAR Dialog b. Level 1A & 1B Data (Digital Tape) c. Product Status d. User Data Search & Order Dialog
51	GSFC V0 DAAC	ECS at the GSFC DAAC	a. TOMS Ozone and Migration Data
52	MSFC V0 DAAC	ECS at the MSFC DAAC	a. SSM/I b. GPCP c. Migration Data
53	LaRC V0 DAAC	ECS at the LaRC DAAC	a. SAGE Aerosol b. ISCCP c. V0 Migration Data
55	EDC V0 DAAC	ECS at the EDC DAAC	a. MODIS Level 2 Migration Data
56	JPL V0 DAAC	ECS at the JPL DAAC	a. Migration Data
57	NSIDC V0 DAAC	ECS at the NSIDC DAAC	a. MODIS Level 2 Migration Data
58	ORNL V0 DAAC	ECS at the ORNL DAAC	a. Migration Data
59	ASF V0 DAAC	ECS at the ASF DAAC	a. Migration Data
60	ECS at the EDC DAAC	EDC V0 DAAC	a. Data Requests & Coordination
61	ECS at the JPL DAAC	JPL V0 DAAC	a. Data Requests & Coordination
62	ECS at the NSIDC DAAC	NSIDC V0 DAAC	a. Data Requests & Coordination
63	ECS at the ORNL DAAC	ORNL V0 DAAC	a. Data Requests & Coordination
64	ECS at the ASF DAAC	ASF V0 DAAC	a. Data Requests & Coordination
103	NMC/DAO-DAS	ECS at the GSFC DAAC	a. NMC Observation Data b. Gridded NMC Data

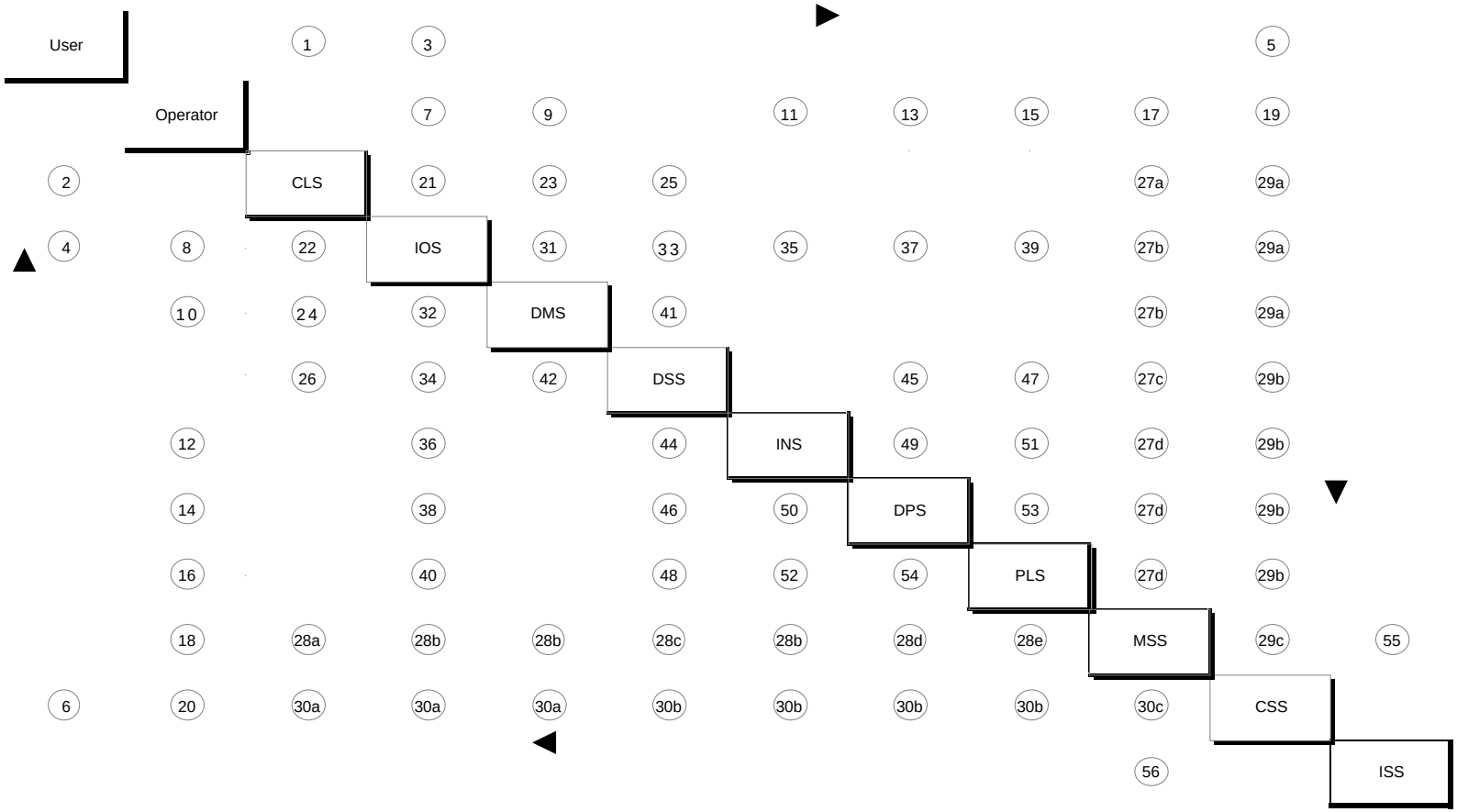
6. Future Plans and Goals

As part of the development process, Release B teams are encouraged to modify this white paper. Once an agreed baseline is developed, interface design can proceed under a common document. This is just the first step; the final form of this white paper will be incorporated into the IRD-B Segment Requirements Specification, document 304, and the OPS Concept Part 2B document

For the client, this provides them with a document that can be read to ensure that the interface requirements are appropriately handled by the Release B teams during development.

Appendix A

A-1 ECS Release B Subsystem Interfaces


User
Operator
CLS
IOS
DMS
DSS
INS
DPS
PLS
MSS
CSS
ISS
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27a
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27b
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27c
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27d
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27d
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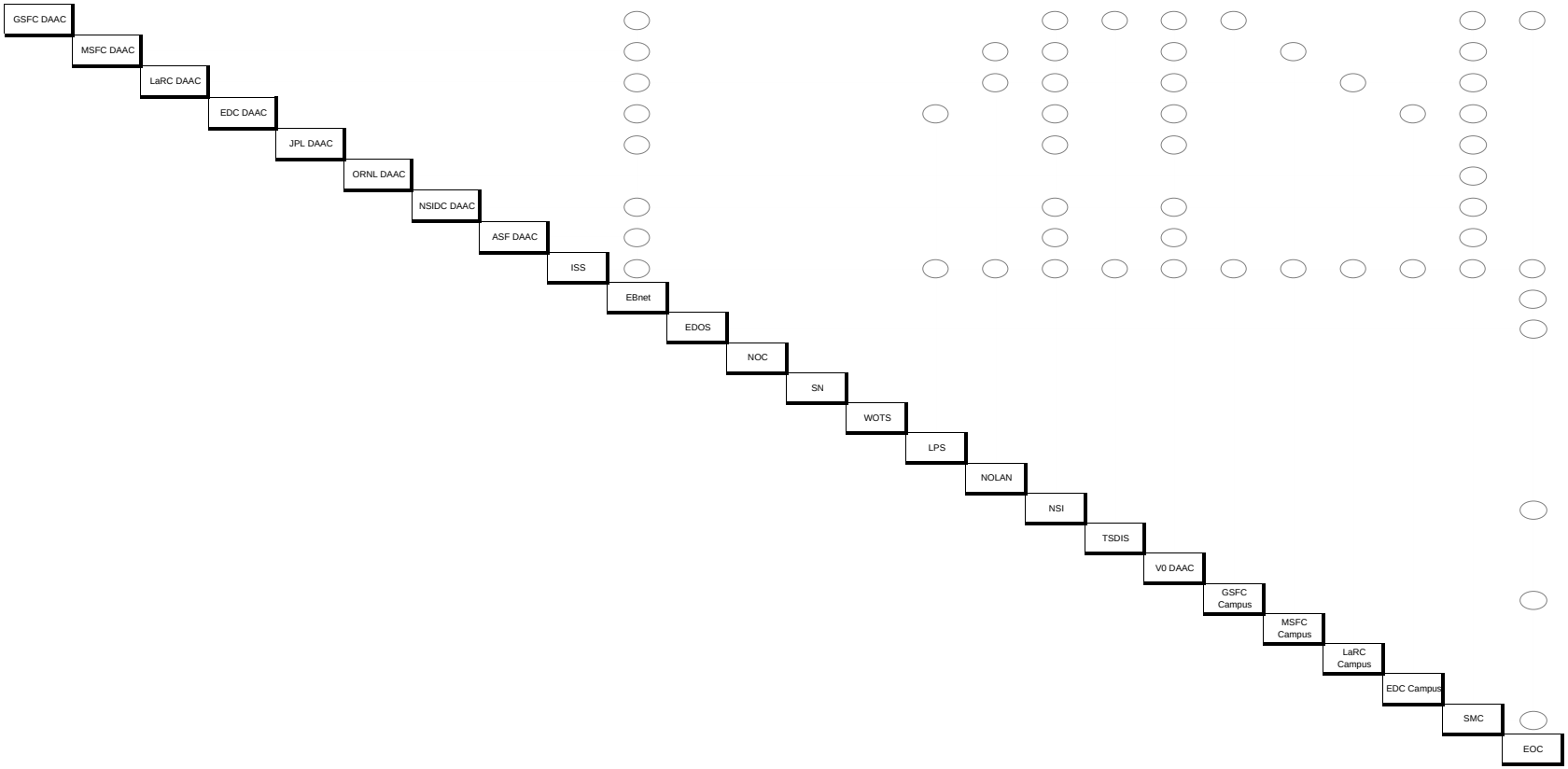
30c
56

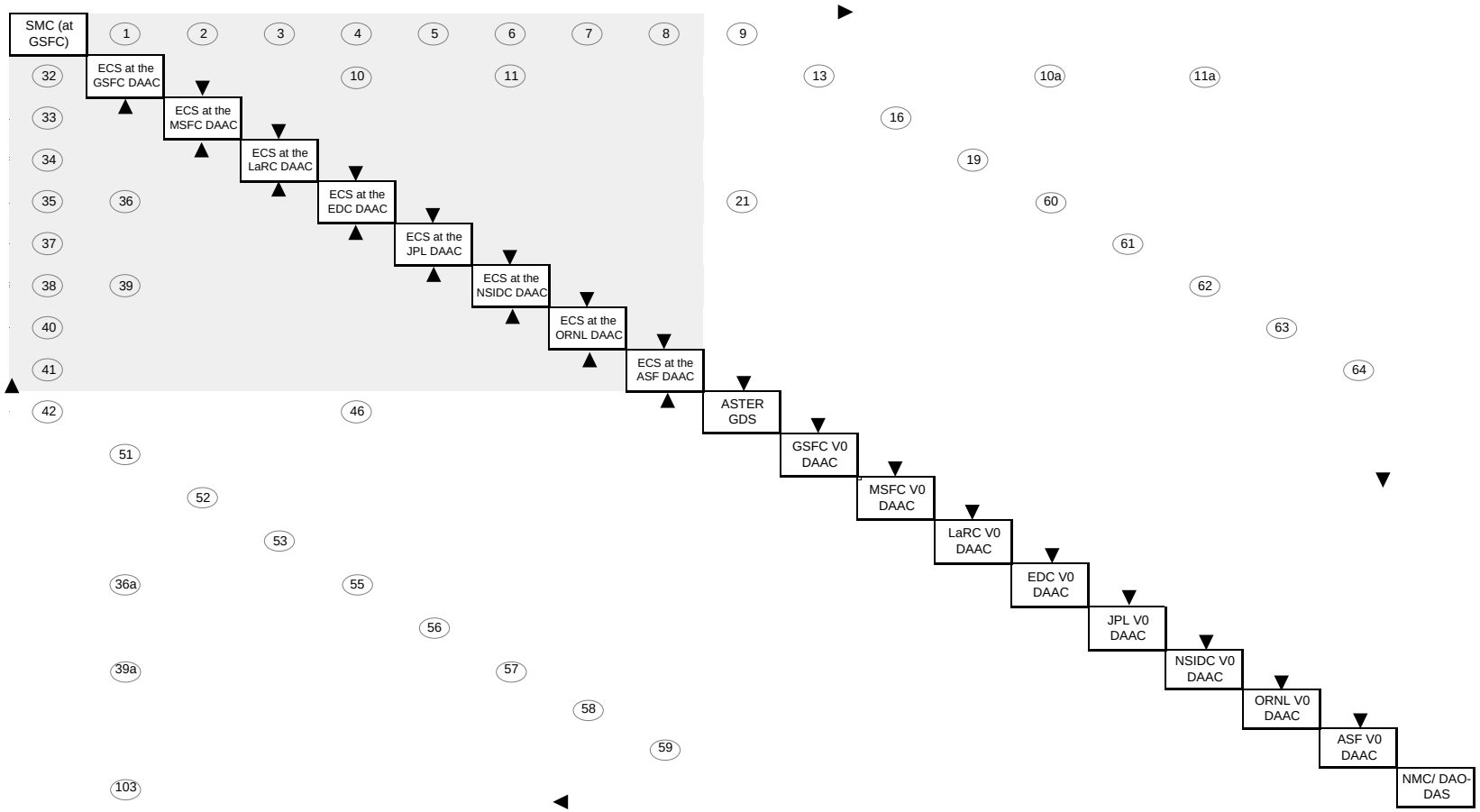
A-2 ECS Release B Internetworking Subsystem Interfaces


GSFC DAAC
MSFC DAAC
LaRC DAAC
EDC DAAC
JPL DAAC
ORNL DAAC
NSIDC DAAC
ASF DAAC
ISS
EBnet
EDOS
NOC
SN
WOTS
LPS
NOLAN
NSI
TSDIS
V0 DAAC
GSFC Campus
MSFC Campus
LaRC Campus
EDC Campus
SMC
EOC

A-3 ECS Release B External Interfaces

	CLS	IOS	DMS	DSS	INS	DPS	PLS	MSS	CSS	ASTER GDS	ASF	CSA	Landsat 7 LPS	Landsat 7 IAS	Landsat 7 IGS	Landsat 7 MMO	Landsat 7 MOC	SCFs	PI/TL workstations	SAA	NMC	NOAA data center	GSFC SDPF	LIS SCF	CERES SCF	GSFC TSDIS	V0 DAACs	NSI - NOC	FDF	EDOS	SEAWINDS V0 Source	SAGE III V0 Source
CLS										17	17	17	17	9	17	17	15	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
IOS																				85												
DMS										127	129	131						143	145	147	149					159	167		181			
DSS												193												217	219	221	229					
INS													239																			
DPS																		267														
PLS																																
MSS										313	315	317				325		329		333								355				
CSS	18		126	188	250			312																								
ASTER GDS	18		128		252			314																								
ASF	18		130	192				316																								
CSA	18				256																											
Landsat 7 LPS	18				258																											
Landsat 7 IAS	18				260																											
Landsat 7 IGS	18							324																								
Landsat 7 MMO	18																															
Landsat 7 MOC	18		142		266			328																								
SCFs	18																															
PI/TL workstations	18	84	146		270			332																								
SAA	18				272																											
NMC	18	88																														
NOAA data center	18				276																											
GSFC SDPF	18																															
LIS SCF	18																															
CERES SCF	18		158		282																											
GSFC TSDIS	18	104	160																													
V0 DAACs	18							354																								
NSI - NOC	18		180																													
FDF	18							360																								
EDOS	18				288																											
SEAWINDS V0 Source	18				290																											
SAGE III V0 Source																																

A-4 DAAC-to-DAAC and SMC Interfaces


SMC (at GSFC)
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ECS at the GSFC DAAC
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10a
11a
33
ECS at the MSFC DAAC
16
34
ECS at the LaRC DAAC
19
35
36
ECS at the EDC DAAC
21
60
37
ECS at the JPL DAAC
61
38
39
ECS at the NSIDC DAAC
62
40
ECS at the ORNL DAAC
63
41
ECS at the ASF DAAC
64
42
46
ASTER GDS
51
GSFC V0 DAAC
52
MSFC V0 DAAC
53
LaRC V0 DAAC
36a
55
EDC V0 DAAC
56
JPL V0 DAAC
39a
57
NSIDC V0 DAAC
58
ORNL V0 DAAC
59
ASF V0 DAAC
103
NMC/ DAO-DAS

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Abbreviations and Acronyms

Refer to document #152-TP-001-002, *ACRONYMS EOSDIS Core System (ECS) Project*