NATIONAL POLAR-ORBITING OPERATIONAL ENVIRONMENTAL SATELLITE SYSTEM (NPOESS)

NPOESS Common Data Format Control Book - External Volume I - Overview
D34862-01 Rev D
CDRL No. A014

Northrop Grumman Space & Mission Systems Corporation
One Space Park
Redondo Beach, California 90278

This document has been identified per the NPOESS Common Data Format Control Book – External Volume 5 Metadata, D34862-05, Appendix B as a document to be provided to the NOAA Comprehensive Large Array-data Stewardship System (CLASS) via the delivery of NPOESS Document Release Packages to CLASS.

The information provided herein does not contain technical data as defined in the International Traffic in Arms Regulations (ITAR) 22 CFR 120.10.
This document has been approved by the Unites States Government for public release in accordance with NOAA NPOESS Integrated Program Office.

Distribution: Statement A: Approved for public release; distribution is unlimited.

NATIONAL POLAR-ORBITING OPERATIONAL ENVIRONMENTAL SATELLITE SYSTEM (NPOESS)

NPOESS Common Data Format Control Book - External Volume I - Overview D34862-01 Rev D CDRL No. A014

PREPARED BY:

Patrick Purcell, System Engineering

ELECTRONIC APPROVAL SIGNATURES:

Clark Snodgrass, SEITO Director	Keith Reinke, Ground Segments IPT Lead
Fabrizio Pela, SE&I IPT Lead	Ben James, Operations and Support IPT Lead
Mary Ann Chory, Space Segment IPT Lead	David Vandervoet, NPOESS Program Manager

Revision/Change Record

For Document No. D34862-01

Revision	Document Date	Revision/Change Description	Pages Affected
---	09/27/2004	Initial Release. Incorporated ECR 298A	All
A	10/14/2005	Incorporation of the following ECRs: • D34659 CIS ICD ECR 216C – Initial "Draft" Release • D31400-10 SARSAT System OPSCON SYS-020-00 ECR 229B – Rev A • D34862-01 CDFCB-X Volume I ECR 445B – Rev A.	All

Revision/Change Record

For Document No. D34862-01

Revision	Document Date	Revision/Change Description	Pages Affected
B	08/27/07	Incorporation of the following DCOs and ECRs: D34651 Field Terminals ICD ECR 469C – Initial Release D34862-03 CDFCB-X Vol. III ECR 475A – Initial Release D34862-05 CDFCB-X Vol. V ECR 476B – Initial Release D41068 IDPS to NSIPS ICD ECR 479A – Initial Release ECR 515B – Restructure Baseline – Demanifested and GFE Sensor Performance ECR 517C – NPOESS Restructure – Accomodation ECR 530C – Two-Sensor EDRs ECR 534D – NPOESS Data Products – Revised based on Demanifested Sensors DCO B1 D34862-01 CDFCB-X Vol. I ECR 521B – Appendix H, Scaling DCO B2 D34862-01 CDFCB-X Vol. I ECR 526 – Fill Values Update DCO B3 D34862-01 CDFCB-X Vol. I ECR 532 – UML Updates DCO B4 D34862-01 CDFCB-X Vol. I ECR 539A – Section 3.5 Updates (HDF5 Overview) DCO B5 D34862-01 CDFCB-X Vol. I ECR 542A – Collection Short Names Update DCO B6 D34862-01 CDFCB-X Vol. I ECR 543A – Geolocation Mapping (Appendix G) DCO B7 D34862-01 CDFCB-X Vol. I ECR 581B – Unscaling of the CrIS SDR (Appendix H) ECR 549C, IDPS Build 1.5 Metadata Updates – CDFCB-X, Vol. 5, DCO B1 ECR 567A, OMPS TC SDR – CDFCB-X Vol. 3, DCO A2 ECR 574A, ODAD Updates ECR 579A, OMPS Limb Sensor on NPP ECR 615A, CIDP CDFCB-X Volumes I, II, VI ECR 608A, Product Profile Delivery – CDFCB-X, Vol. V This revision also incorporates updates to all sections in this document. Highlights of the changes include: Addition of the Release Packages Addition of the File-Naming Convention for the NPOESS Data Product Profiles Demanifested Sensor updates and spacecraft manifests CSN clean-up (DQTTs, Processing Coefficients, and Look Up Tables)	All

Revision/Change Record

For Document No. D34862-01

Revision	Document Date	Revision/Change Description	Pages Affected
C	07/11/08	Incorporation of the following DCOs and ECRs: • ECR 675A, VIIRS Aerosol EDR Update – CDFCB-X Vol IV, D34862-04-01, DCO B2 and D34862-04-02, DCO B4 • ECR 650 IDPS Terrain Database Updates DCO C1 • ECR 689 Release Packages and Manifest File Update DCO C2 • ECR 791A Revision C Updates to the CDFCB-X Volume I, D34862-01 • ECR 712 N_Algorithm_Version DCO C3 • ECR 727 NPP CERES RDR Formats DCO C4 • ECR 744 File Naming, HDF5, and Missing Gran Updates, DCO C5 • ECR 753 Release Packages Updates, DCO C6	All
D	1/30/09	Incorporation of the following DCOs and ECRs • ECR 844A CERES Updates DCO D1 • ECR 876 Cleanup of Clerical Error DCO D2 • ECR 863C Mission Notices Delivery to CLASS via DDS DCO D3 • ECR 895A CDFCB-X Vol I Revision D For Public Release per IPO Letter 090515-01.	All

Table of Contents

List of Figures

List of Tables

1.0 INTRODUCTION

1.1 Purpose

This Common Data Format Control Book – External (CDFCB-X) provides the data format definitions of all of the data distributed to the external community by the National Polar-orbiting Operational Environmental Satellite System (NPOESS) and the NPOESS Preparatory Program (NPP). The purpose of the CDFCB-X Volume I – Overview is to provide the introductory material necessary to understand the data format definitions and conventions used for the data provided by NPOESS.

1.2 Scope

The CDFCB-X is intended to be the controlling document for the data format definitions and conventions used for all of the data that is created by NPOESS and delivered to the external community. Each data format definition includes a brief Description/Purpose of the data that is being described, but this is only intended to provide context. The use of various data produced by NPOESS is left up to the user to decide. There are other documents provided by NPOESS which are intended to facilitate a deeper understanding of the data. For example, to gain a further understanding of a particular NPP/NPOESS Data Product, the relevant Operational Algorithm Document (OAD) and Algorithm Theoretical Basis Document (ATBD) would be necessary.

1.3 Intended Users

This document is intended to be a reference manual for the recipients of the externally delivered NPOESS data, including system output data and NPP/NPOESS Data Products. This document provides the reader detailed data format definitions for the data, including the file-naming conventions for each data file.

1.4 NPOESS Overview

NPOESS collects, processes, and deliver global multi-spectral radiometry, other specialized meteorological, oceanographic, and solar-geophysical data to operational users including the National Oceanic and Atmospheric Administration/National Environmental Satellite, Data, and Information Service (NOAA/NESDIS), the Air Force

Weather Agency (AFWA), the Naval Oceanographic Office (NAVOCEANO, also known as NAVO), and the Fleet Numerical Meteorology and Oceanography Center (FNMOC). The data is also provided to worldwide-deployed field terminal users and the environmental remote sensing scientific community.

The NPP is a joint program between the National Aeronautics and Space Administration (NASA) and the NPOESS Integrated Program Office (IPO). NPP provides continuity of remotely sensed data measurements supporting the research of long-term change in the global climate. This is accomplished by extending the measurement series being initiated with the Earth Observation System (EOS) Terra spacecraft Moderate Resolution Imaging Spectroradiometer (MODIS) instrument, the EOS Aqua spacecraft Atmospheric Infrared Sounder (AIRS) instrument, and the Advanced Microwave Sounding Unit (AMSU) Programs.

The NPP and NPOESS states are composed of four and five segments, respectively. These segments are: the Space Segment (SS), C3S, IDPS, Launch Support Segment (LSS), and Field Terminal Segment (FTS). FTS is the NPOESS only segment.

The NPOESS program has three operating states. State 1 is the initial operating Risk Reduction Phase which operates with a subset of the applicable mission requirements. During State 2, both the NPP and NPOESS satellites operate during the concurrent portion of the NPP and NPOESS missions. During State 2, a subset of the applicable system requirements for the NPOESS mission are met. State 3 begins when the NPP mission is decommissioned and extends to NPOESS end of mission life. During State 3, all NPOESS system requirements are met. The NPOESS ground segment supports all three states.

1.5 Volume Overview

Due to the size of the CDFCB-X, this document has been separated into volumes. Each volume contains a logical grouping of the information in order to facilitate manageability and use of the document. See the Document Overviews of each of the volumes for a detailed description of their contents. The volumes are organized in the following manner:

CDFCB-X Volume I: Overview – Provides a brief overview of the NPP and NPOESS programs and defines the scope of the CDFCB-X. This volume also provides the introductory material necessary to understand the NPP/NPOESS Data Products and is the common location for conventions used by the NPOESS Program.

CDFCB-X Volume II: Raw Data Record Formats – Provides the data format definitions for the NPP/NPOESS Raw Data Records (RDR). This volume includes the description of the Hierarchical Data Format, Release 5 (HDF5) file formats used for RDRs.

CDFCB-X Volume III: Sensor Data Record/Temperature Data Record Formats – Provides the data format definitions for the NPP/NPOESS Sensor Data Records (SDR) and Temperature Data Records (TDR). This volume also includes the description of the HDF5 file formats used for the SDRs and TDRs.

CDFCB-X Volume IV: Environmental Data Record/Intermediate Product/Application Related Product Formats – Provides the data format definitions for the NPP/NPOESS Environmental Data Records (EDR), Intermediate Products (IP), and Application Related Products (ARP). This volume also includes the description of the HDF5 file formats used for the EDRs, IPs, and ARPs. Due to its size, this volume has been separated into four parts:

- **CDFCB-X Volume IV Part 1:** Overview, IPs, ARPs, and Common Geolocation Data – provides an overview explaining the separate parts of the volume, the data format definitions for the NPP/NPOESS IPs and Application Related Products (ARP), and the data format definitions for the Geolocation Data that is common to multiple NPP/NPOESS EDRs, IPs, and ARPs that are described in Volume IV.
- **CDFCB-X Volume IV Part 2:** Imagery, Atmospheric, and Cloud EDRs – provides the data format definitions for the NPP/NPOESS Imagery, Atmospheric, and Cloud EDRs.
- **CDFCB-X Volume IV Part 3:** Land and Ocean/Water EDRs - provides the data format definitions for the NPP/NPOESS Land and

Ocean/Water EDRs.

- **CDFCB-X Volume IV Part 4:** Earth Radiation Budget and Space EDRs – provides the data format definitions for the NPP/NPOESS Earth Radiation Budget and Space (ERBS) EDRs.

CDFCB-X Volume V: Metadata – Provides the associations and definitions of the metadata attributes used in the HDF5 delivered data created by NPOESS. This volume also provides the data format definitions for the HDF5 EXtensible Markup Language (XML) User Block delivered with the NPP/NPOESS Data Products and the data format definition for the NPOESS Data Product Profiles.

CDFCB-X Volume VI: Ancillary Data, Auxiliary Data, Messages, and Reports – Provides the data format definitions for the various ancillary data, auxiliary data, reports, and messages delivered by the NPOESS Program to the external community. This volume also includes the HDF5 file formats used for delivering the Official Dynamic Ancillary Data (ODAD) and for those auxiliary data files delivered via the data delivery capabilities of IDPS.

CDFCB-X Volume VII: NPOESS Downlink Data Formats – Provides the application packet formats and CCSDS downlink protocol definitions of the downlink data produced by NPOESS satellites. This is an NPOESS Only document. For the data format definitions during the NPP era, see the NPP Mission Data Format Control Book (MDFCB), GSFC 429-05-02-42, and the NPP Command and Telemetry (C&T) Handbook, D568423.

CDFCB-X Volume VIII: Look Up Tables and Processing Coefficients – Provides the data format definition for the various Look Up Tables (LUT) and Processing Coefficients used to create NPP/NPOESS Data Products.

1.6 Document Overview

The sections in this volume are organized in the following manner:

Section 1.0 Introduction – Provides a brief overview of the NPP and NPOESS programs, the document layout, interface management, and scope of the CDFCB-X.

Section 2.0 Applicable Documents – Identifies the documents applicable to the CDFCB-X. These documents are listed either as Compliance Documents or as Reference Documents. This section also establishes an order of precedence in the event of conflict between the CDFCB-X and other system level documents.

Section 3.0 Conventions – Describes the various conventions used by NPOESS to create the various data that is deliverable to the external community. This section provides conventions for Interface Mnemonics (as applicable to the Interface Control Documents (ICD) that reference the CDFCB-X), Data Mnemonics (as used in the CDFCB-X), Time Conventions, Software Versioning Convention, File-Naming Conventions, and Release Packages used by NPOESS.

Appendix A NPP/NPOESS Data Product Collection Short Names – Provides a table containing data mnemonics, data product identifiers, descriptions, effectivity, and Collection Short Names for the NPP/NPOESS Data Products. Collection Short Names can be mixed case characters to provide further clarity.

Appendix B NPP/NPOESS Auxiliary Data, Ancillary Data, Reports, and Messages Collection Short Names – Provides a table containing data mnemonics, descriptions, and Collection Short Names for auxiliary data, ancillary data, reports, and messages. Collection Short Names can be mixed case characters to provide further clarity.

Appendix C Document Specific Acronym List – Provides a list of acronyms unique to this document. All other acronyms are identified and listed in the NPOESS Acronyms, D35838.

Appendix D Spacecraft and Simulator Names – Provides the standard naming conventions for the spacecraft, spacecraft simulator, and sensors. Also included in this appendix, are their alphanumeric mappings.

Appendix E Sensor Granule Sizes – Provides tables of the granule sizes from each of the sensors flown on NPP and NPOESS. The listings are categorized by program effectivity.

Appendix F NPP/NPOESS Data Product Style Guide Matrix – Provides a listing of all of the NPP/NPOESS Data Products (excluding RDRs, which are provided as

application packets only) and their associated Style Guide designation as defined in Section 3, Conventions.

Appendix G NPP/NPOESS Data Product Geolocation Mapping – Provides the mapping of the NPP/NPOESS Data Products to their corresponding Geolocation data.

Appendix H NPP and Applicable NPOESS Data Product Scaling – Provides the listing of NPP and applicable NPOESS Data Products that are scaled by NPOESS prior to delivery to the external community.

Appendix I HDF5 Data Types Crosswalk – Provides a crosswalk of data types used in the HDF5 implementation of the NPP/NPOESS Data Products.

Appendix J Deleted

1.7 Interface Management

The Government NPOESS IPO Level 1 Configuration Control Board (CCB) is the Configuration Management (CM) authority for External ICDs and the CDFCB-X. The Government External ICD stakeholders (e.g., NPOESS IPO, NASA, AFWA, FNMOC, NAVO, NOAA/NESDIS, and NOAA/CLASS), participate in this CCB since any change to an interface, of which one side is outside NPOESS control, is a Class 1 change (as defined in the NPOESS System Specification, SY15-0007). Any subsequent change to external ICDs or CDFCB-X after the initial baseline requires a Class 1 Engineering Change Request (ECR) and approval by the Government NPOESS IPO Level 1 CCB.

The Northrop Grumman Space Technology (NGST) Program CCB is the CM authority for all inter-segment ICDs. The NGST CCB stakeholders participate in this CCB since any change on either side of an interface is considered to be a Class 2 change. Any subsequent change to inter-segment ICDs after the initial baseline requires a Class 2 ECR and approval by the NGST Program CCB.

After approval and release, the Configuration Management Office (CMO) performs the Data Management function and has responsibility for this CDFCB-X. CDFCB-X revisions are issued in the form of a complete document release or change pages, as applicable.

2.0 APPLICABLE DOCUMENTS

2.1 Compliance Documents

Compliance documents show conformity in fulfilling official program requirements. Compliance documents, whether Government or non-Government officially form a part of this document to the extent specified herein.

Table 2.1-1, Compliance Documents

Document Identification	Document Title	Related Volumes	
SY15-0007	NPOESS System Specification	All	
D41044	NPOESS API User's Guide	I, II	
SYS-010-010	NPOESS System Operations Concept Stored Mission Data (SMD) Scenario	VI	
D34659-1	NPOESS Common Interfaces and Services ICD Volume 1: External	VI	
D31413	NPOESS to NOAA ICD	All	
D34466	NPOESS to DoD ICD	All	
D37032	NPOESS Integrated Support Facility (ISF) ICD	All	
D34651	NPOESS to Field Terminal (FT) ICD	All	
D34652	NPOESS C3S to IDPS ICD	All	
D34645	NPOESS to NPP SDS ICD	All	
GSFC 429-05-02-42	NPP Mission Data Format Control Book (MDFCB)	II, VII	
568423	NPP Command and Telemetry Handbook	II, VII	

2.2 Reference Documents

Reference documents provide additional information that may or may not be used to define an interface or service. In those cases where they are not needed to define an interface or service, they provide supplemental information, e.g., the NPOESS Acronyms, D35838. In this example, the reference provides the definition of the acronyms, but is not needed to develop an interface or service.

For a list of reference documents delivered by NPOESS to the external community, see the CDFCB-X, Vol V, D34862-05, Table B-1, NPOESS Delivered Documentation.

2.2.1 Protocol Versioning

The NPOESS System Specification, SYS15-0007, identifies the versions of protocols used for the NPOESS data formats that are annotated within this document.

2.3 Precedence

In the event of conflict between a compliance document listed in Table 2.1-1, Compliance Documents, and the contents of this document, the NGST SEITO organization, in conjunction with the IPO, shall resolve the conflict. For all Class 2 documents, the NGST SEITO organization shall resolve the conflict. In the event of a conflict between this document and a reference document listed in Table 2.2-1, Reference Documents, this document takes precedence.

3.0 CONVENTIONS

3.1 Interface Mnemonic Definition

Interfaces are named and numbered in accordance with the NPOESS Interface Mnemonic Definition. Figure 3.1-1, NPOESS Interface and Service Mnemonic Definition, describes the structure for the Interface Mnemonic naming convention. All physical and logical interfaces are defined and constructed in accordance with

Table 3.1-1, NPOESS Interface and Service Mnemonic Description.

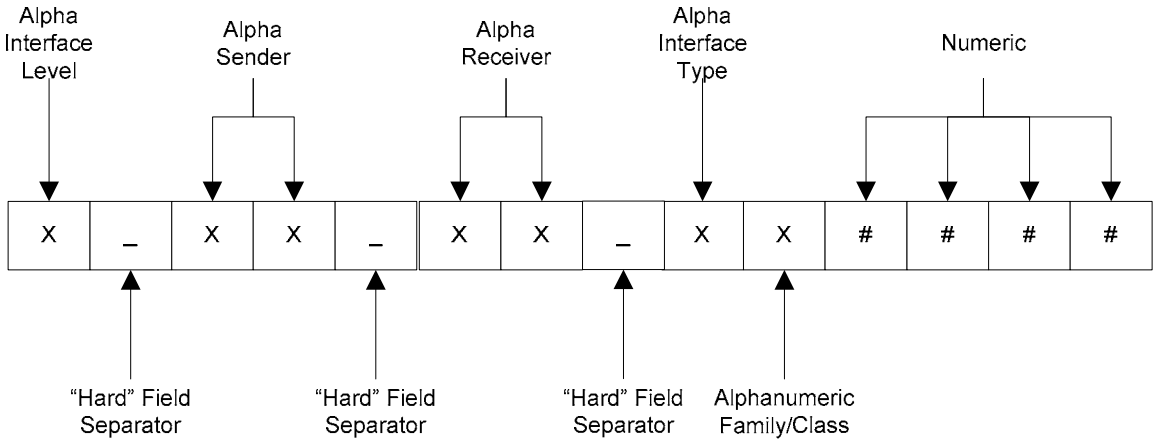


Figure 3.1-1, NPOESS Interface and Service Mnemonic Definition

Table 3.1-1, NPOESS Interface and Service Mnemonic Description

Field Position	Value	Range	Comments
1	Alpha	R = Intra-Segment T = Inter-Segment X = External	Defines the level of the interface. Should an interface be both internal and external, the external indicator takes precedence.
2	_	"_" (Underscore)	Separator between interface level and Sender.
3-4	Alpha	Table 3.1-2, Interface Sender and Receiver Designator	Two letter symbol denoting the Sender in the interface. See Table 3.1-2, Interface Sender and Receiver Designator, for a complete list of two-letter designators.
5	_	"_" (Underscore)	Separator between Sender and Receiver
6-7	Alpha	Table 3.1-2, Interface Sender and Receiver Designator	Two letter symbol denoting the Receiver in the interface. See Table 3.1-2, Interface Sender and Receiver Designator, for a complete list of two-letter designators.
8	-	"-" (Hyphen)	This is a hard field separator.
9	Alpha	P = Physical Interface L = Logical Interface S = Service	Defines the type of interface or service.
10	Alpha-Numeric	A – Z, 0 – 9	Optionally used to add further definition to the mnemonic. See Table 3.1-3, Family/Class Identifiers, for a list of optional mnemonic identifiers. If this convention is not used, the sequential numbering described directly below (definition for fields 11-14) is used for this field.
11-14	Numeric	0000 – 9999	Sequential number of the interface starting at zero (to include family/class interfaces) and increment sufficiently (e.g. 10) to allow additional interfaces to be inserted as appropriate. These field positions can be augmented by field position 10, if it is not being used for detailed mnemonic definitions.

Table 3.1-2, Interface Sender and Receiver Designator, provides the two-letter designator for the sender/receiver of the respective interfaces. The sender/receiver can be a location/site, segment, or hardware/equipment classification.

Table 3.1-2, Interface Sender and Receiver Designator

S/R Identifier	Identifier Description
AD	Comprehensive Large Array-data Stewardship System (CLASS)
AF	Air Force Weather Agency (AFWA)
AN	Ancillary Data
AT	Advanced Technology Microwave Sounder (ATMS)
AU	Ground Integrated Support Facility (GISF)
BA	Ball Aerospace Technology Corporation (BATC)
C3	Command, Control and Communications Segment (C3S)
CN	Centrals
CR	Cross-Track Infrared Sounder (CrIS)
CV	NPOESS Science Investigator Processing System (NSIPS)
DC	Advanced Data Collection System (A-DCS)
DP	Interface Data Processing Segment (IDPS)
FC	Suitland Federal Complex
FD	Field Terminals Data Processor Element (DPE)
FM	Field Terminals Mission Application Element
FN	Fleet Numerical Meteorology and Oceanography Center (FNMOC)
FO	Field Terminal Operator
FS	Field Terminals Signal Processing Element (SPE)
FT	Field Terminal Segments (FTS)
IN	Indianapolis Support Node
LA	Riverdale Support Node
LS	NPOESS Launch Support Segment (LSS)
MM	Mission Management Center (MMC)
MS	Mission Support Data (MSD)
NE	National Environmental Satellite, Data, and Information Service (NOAA/NESDIS)
NP	National Polar-orbiting Operational Environmental Satellite System (NPOESS)
NU	NPOESS Authorized User
NV	Naval Oceanographic Office (NAVO)
OM	Ozone Mapping and Profiler Suite (OMPS)

S/R Identifier	Identifier Description
PI	NPOESS Preparatory Project (NPP) Instruments
PS	NPP Space Segment
RS	Receptor Site
SA	Search and Rescue Satellite Aided Tracking (SARSAT)
SD	Science Data Segment (SDS)
SP	Space Integrated Support Facility (SISF)
SS	NPOESS Space Segment
SV	Svalbard
VI	Visible/infrared Imager/Radiometer Suite (VIIRS)
WS	White Sands

Table 3.1-3, Family/Class Identifiers, provides a listing of the single letter designators used to define family or class associated with the interface as it pertains to a specific site/location or type of equipment/hardware.

Table 3.1-3, Family/Class Identifiers

Identifier	Identifier Description
A	AFWA
B	Both LRD and HRD Field Terminals
C	Department of Defense (DoD) Common
F	FNMOC
H	HRD Field Terminal
L	LRD Field Terminal
M	MSD Server (MSDS)
N	NOAA
S	Flight Vehicle Simulator (FVS)
V	NAVO
W	Web Server

3.2 Data Mnemonics

3.2.1 Data Mnemonic Definition for Data Formats

All data that flows across the logical interfaces to the external community from NPOESS is labeled with a data mnemonic. The standard data mnemonic is depicted in Figure 3.2.1-1, NPP/NPOESS Data Mnemonic Description. Table 3.2.1-1, NPP/NPOESS Data Mnemonic Description, provides the definition of each respective field in the data mnemonic. A logical interface can have more than one data item flowing across it, likewise, a given data item may flow across multiple logical interfaces. Therefore, each data item has its own unique data mnemonic. These data mnemonics facilitate the ability to map the data mnemonics to the logical interface mnemonics.

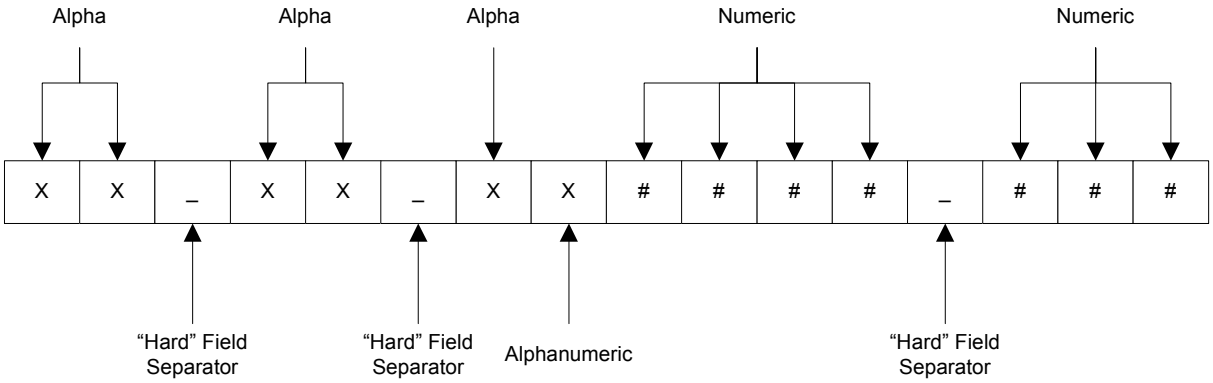


Figure 3.2.1-1, NPP/NPOESS Data Mnemonic Description

Table 3.2.1-1, NPP/NPOESS Data Mnemonic Description

Field Position	Value	Range	Comments
1-2	Alpha	Table 3.1-2, Interface Sender and Receiver Designator	Two letter symbol denoting the Sender/Originator of the data. See Table 3.1-2, Interface Sender and Receiver Designator, for a complete list of two-letter designators.
3	_	"_" (Underscore)	Separator between Sender and Receiver of the data
4-5	Alpha	Table 3.1-2, Interface Sender and Receiver Designator	Two letter symbol denoting the Receiver of the data. See Table 3.1-2, Interface Sender and Receiver Designator, for a complete list of two-letter designators.
6	-	"-" (Hyphen)	This is a hard field separator.
7	Alpha	"L" = Logical "P" = Physical	Identifies the type of interface the data is transferred across.
8	Alpha Numeric	A – Z, 0 – 9	Optionally used to add further definition to the mnemonic. See Table 3.1-3, Family/Class Identifiers, for a list of optional mnemonic identifiers. If this convention is not used, the sequential numbering described directly below (definition for field 9-12) is used for this field.
9-12	Numeric	0000 – 9999	Sequential numbering of the data mnemonic starting at zero and skips by 10 nominally. These field positions can be augmented by field position 8, if it is not being used for detailed mnemonic definitions.
13	-	"-" (Hyphen)	This is a hard field separator.
14-16	Numeric	000 – 999	Numeric identifier assigned to the data.

3.2.2 Data Mnemonic Definition for NPP/NPOESS Data Products

All data flowing across the logical interfaces to the external community from NPOESS is labeled with a data mnemonic. Due to the nature of the NPP/NPOESS Data Products, the standard data mnemonic, defined in Figure 3.2.1-1, NPP/NPOESS Data Mnemonic Description, does not provide for a unique identifier for all NPP/NPOESS Data Products,

therefore an additional data mnemonic was created. Figure 3.2.2-1, NPP/NPOESS Data Mnemonic for NPP/NPOESS Data Products, depicts the construction of this data mnemonic, and Table 3.2.2-1, Description of the NPP/NPOESS Data Mnemonic for NPP/NPOESS Data Products, identifies the definition and content of each field in the mnemonic.

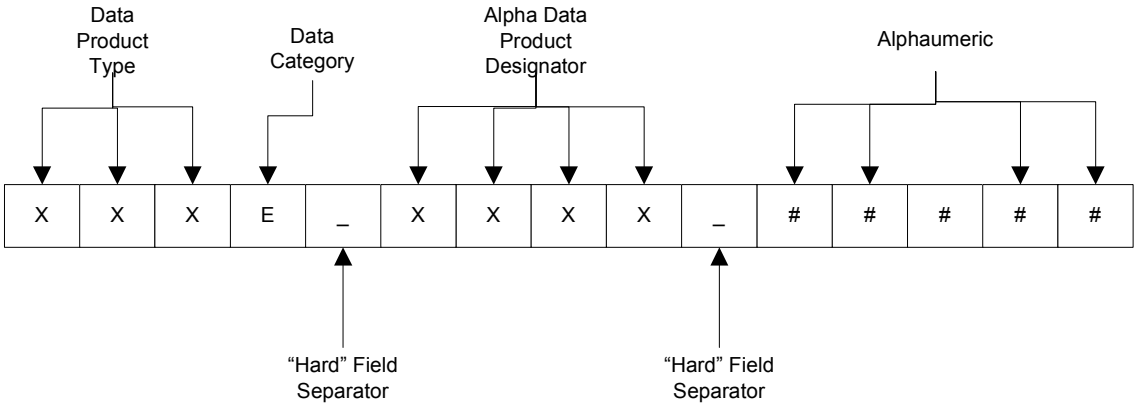


Figure 3.2.2-1, NPP/NPOESS Data Mnemonic for NPP/NPOESS Data Products

Table 3.2.2-1, Description of the NPP/NPOESS Data Mnemonic for NPP/NPOESS Data Products

Field Position	Description	Possibilities	
1-3	Data Product Type This field is a three-character identifier for the type or category of data product in the file.	**Identifier**	**Description**
		RDR	Raw Data Records
		EDR	Environmental Data Records
		IMP	Intermediate Products
		SDR	Sensor Data Records
		TDR	Temperature Data Records
		ARP	Application Related Product
		GEO	Geolocation Data
4	Data Category This character describes the data category. For all data leaving the NPOESS system, this character will be an "E."	**Identifier**	**Description**
		E	External
5	Field Separator	'_'	
6-9	Data Product Designator	A 4-character identifier used for NPOESS Data Product mnemonics.	
10	Field Separator	'_'	
11-15	Alphanumeric ID	A – Z, 0 – 9	

3.3 Time Conventions

3.3.1 Interface Data Processing Segment Epoch Time Format

IDPS Epoch Time (IET) is the standard for time storage within the delivered NPP/NPOESS Data Products[1]. This format is used to avoid the additional processing and storage required for Coordinated Universal Time (UTC). IET is a monotonically increasing amount of Temps Atomique International (TAI) length seconds. IET is stored

[1] IET uses the same epoch as the CCSDS epoch used by the spacecraft.

to microsecond accuracy as a signed 64-bit integer. Table 3.3.1-1, IET Time Format, gives specifics of this format.

Table 3.3.1-1, IET Time Format

Bit Length	Long Name	Data Element Name	Valid Range	Data Type	Notes
64	IDPS Epoch Time	IET Time	January 1, 2005 - January 1, 2030 GMT 1483228832000000 - 2272147232000000	64-bit Integer	Microseconds since EPOCH of 1 Jan 1958, 00:00:00 GMT

For IET, the time began on January 1, 1958 at 00:00:00 GMT (UTC). For Unix systems, the epoch began on January 1, 1970 at 00:00:00 GMT (UTC). The delta between these two is +378,691,200 seconds (12 years plus 0 leap seconds. The first leap second wasn't introduced until June 30, 1972).

3.3.2 Coordinated Universal Time Format

UTC[2] is the standard time format in the metadata associated with the data products. This format is used because of its readability, as it is intended as a display format. This time is based on the United States Naval Observatory (USNO) Gregorian date and time. The stored format of UTC is an American Standard Code for Information Exchange (ASCII) string (ISO8601) that contains less than or equal to 27 characters. UTC can be maintained in a delimited and a non-delimited format and can have a resolution of seconds, milliseconds, or microseconds. Table 3.3.2-1, UTC Format Breakdown with Delimiters, and Table 3.3.2-2, UTC Format Breakdown without Delimiters, provide descriptions of the ASCII string (ISO 8601) implementation.

[2] UTC is a compromise between English (CUT) and French (TUC) acronyms.

Table 3.3.2-1, UTC Format Breakdown with Delimiters

Data Element Name	Valid Range or Value	Data Type	Notes
Year	1958 - 2137	char	The year
hyphen	"-"	char	Separator
Month	01 - 12	char	The month
hyphen	"-"	char	Separator
Day	01 - 31	char	Days since the beginning of the month
Separator	" "	char	Date-Time Separator
Hour	00 - 23	char	Hours since the beginning of the day
colon	":"	char	Separator
Minute	00 - 59	char	Minutes since the beginning of the hour
colon	":"	char	Separator
Second	00 - 60	char	Seconds since the beginning of the minute (includes leap seconds)
period	"."	char	Separator (optional) Required if millisecond option is used
millisecond	000 - 999	char	Milliseconds since the beginning of the second (optional) Required if microsecond option is used
microsecond	000 - 999	char	Microsecond since the beginning of the milliseconds (optional)
UTC Designator	"Z"	char	Zero Meridian (optional)

Table 3.3.2-2, UTC Format Breakdown without Delimiters

Data Element Name	Valid Range or Value	Data Type	Notes
Year	1958 - 2137	char	The year
Month	01 - 12	char	The month
Day	01 - 31	char	Days since the beginning of the month
Separator	" "	char	Date-Time Separator
Hour	00 - 23	char	Hours since the beginning of the day
Minute	00 - 59	char	Minutes since the beginning of the hour
Second	00 - 60	char	Seconds since the beginning of the minute (includes leap seconds)
period	"."	char	Separator (optional) Required if milliseconds option is used

Data Element Name	Valid Range or Value	Data Type	Notes
millisecond	000 - 999	char	Milliseconds since the beginning of the second (optional) Required if microsecond option is used
microsecond	000 - 999	char	Microsecond since the beginning of the milliseconds (optional)
UTC Designator	"Z"	char	Zero Meridian (optional)

3.4 File-Naming Conventions

The following sections describe the conventions used to create filenames by NPOESS. In general, the following guidelines are adhered to:

- The filenames contain enough information to indicate the data contained in the file.
- The filename are intended to be human readable.
- The filename and path must be less than 256 characters. This is based on the Microsoft Windows Operating System limit which has a character limit of 260 characters in a full path from the name of the directory to the null at the end of the filename. For UNIX, the platform will accommodate filenames in a directory structure up to 1012 characters. HDF5 is limited only by the Operating System (OS) so the user needs to be aware of the directory structures used for storing the information based on their OS.
- Filename extensions are be preceded by a period, '.', and are appended to the filename.
- For C3S, files created using Commercial Off-the-Shelf (COTS) or Legacy products do not necessarily follow the conventions given. For these files, the convention used is given in the File-Naming Construct field of the specific data unit format.
- All filename fields are case-sensitive for the file-naming conventions
- The possibilities for the Domain field in the different file-naming conventions are given in Table 3.4-1, Domain Identifiers.

Table 3.4-1, Domain Identifiers

Identifier	Description
ops	Operations
pop	Parallel Operations
int	I & T Domain
adr	Anomaly Duplication and Resolution
dev	Development
tia	Technology Insertion Activities
ada	Algorithm Development Activities
cv#	Cal/Val Domains, # to be any chars. 0-9, a-z
t##	Temporary & Test Domains, ## to be any chars. 0-9, a-z
all	All domains

The possibilities for the Origin field in the different file-naming conventions are given in Table 3.4-2, Origin Identifiers.

Table 3.4-2, Origin Identifiers

Identifier	Description
navo	NAVO IDP
afwa	AFWA IDP
fnmc	FNMOC IDP
dod	NAVO, AFWA, and FNMOC IDPs
noaa	NOAA IDP
devl	Development Factory (includes the ISF)
####	Field Terminal Number – The valid range for use on NPOESS is an alphanumeric representation of a hexadecimal value between ‘0000’-‘FFFF’ where ‘0000’ is the default factory setting. Assignment of a value other than the default requires coordination with the NPOESS Program and is to be negotiated at the time for the interaction of the Field Terminal with NPOESS to occur in a non-ambiguous manner.
all	All Field Terminals
c3s	C3S
larc	NASA Langley Research Center
asf	Algorithm Support Function

3.4.1 File-Naming Convention for NPP/NPOESS Data Products

This section describes the file-naming convention for all NPP/NPOESS Data Products produced by NPOESS. The fields are delimited by underscores and can be of variable length. The file extension is separated from the fields by a period or dot. The extension

is the standard extension for defining an HDF5 file. See Figure 3.4.1-1, NPP/NPOESS Data Products File-Naming Convention, for a graphical depiction of the convention and Table 3.4.1-1, NPP/NPOESS Data Products File-Naming Field Descriptions. All fields are case-sensitive.

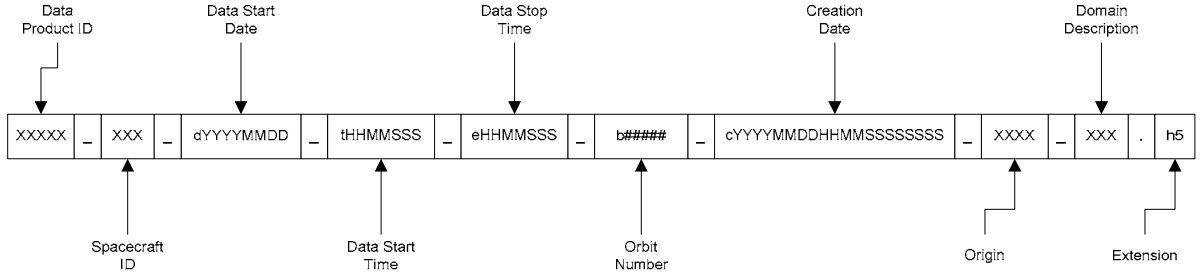


Figure 3.4.1-1, NPP/NPOESS Data Products File-Naming Convention

Table 3.4.1-1, NPP/NPOESS Data Products File-Naming Field Descriptions

Field Position	Description	Applicable Values	
1	Data Product ID This field provides a five character identifier. For multiple data products contained in the file (including diary data and geolocation data), each Data Product ID will be given, delimited by a dash, '-' and are listed in alphabetical order.	xxxxx See Appendix A, NPP/NPOESS Data Product Collection Short Names	
2	Field Separator	'_'	
3	Spacecraft ID	**Identifier**	**Description**
		npp	NPP 1330 Orbit
		n01	NPOESS Launch 1
		n02	NPOESS Launch 2
4	Field Separator	'_'	
5	Data Start Date This field is identified with a 'd' followed by the year, month, and day of the earliest granule described in the dataset of the file.	dYYYYMMDD YYYY=2005-2030 MM=01-12 DD=01-31	
6	Field Separator	'_'	

Field Position	Description	Applicable Values
7	Data Start Time (UTC) This field is identified with a 't' followed by the hour, min, sec, and tenths of seconds of the earliest granule described in the dataset of the file.	tHHMMSSS HH=00-23 MM=00-59 SS=00-60 S=0-9
8	Field Separator	'_'
9	Data Stop Time (UTC) This field is identified with an 'e' followed by the hour, minutes, seconds, and tenths of seconds of the latest granule described in the dataset of the file.	eHHMMSSS HH=00-23 MM=00-59 SS=00-60 S=0-9
10	Field Separator	'_'
11	Orbit Number This field is identified with a 'b' followed by the orbit number that the dataset originated from. The orbit begins at the ascending node and the number is indicative of the earliest granule produced in the data product.	bnnnnn
12	Field Separator	'_'
13	Creation Date (UTC) This field is identified with a 'c' followed by the year, month, day, hour, min, sec, and microseconds.	cYYYYMMDDHHMMSSSSSSS YYYY=2005-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59 SS=00-60 SSSSSS=000000-999999
14	Field Separator	'_'
15	Origin This field is a four-character alpha-numeric identifier for the originator of the file.	For a list of the possible identifiers for this field, see Table 3.4-2, Origin Identifiers
16	Field Separator	'_'

Field Position	Description	Applicable Values
17	Domain Description This field is a three-character identifier which indicates the domain from which the data originated. These are the recognized domain values for NPOESS. There is no specific domain for Field terminals.	For a list of the possible identifiers for this field, see Table 3.4-1, Domain Identifiers
18	Field Separator	'.'
19	Extension The extension indicates the format of the file – NPP/NPOESS Data Products are delivered in the HDF5 file format.	h5

An example of this file-naming convention with one NPP/NPOESS Data Product packaged in a single HDF5 file is:

VI1BO_npp_d20030311_t1400000_e1430000_b12345_c20030311153000000000_navo_tst.h5

An example of this file-naming convention with two NPP/NPOESS Data Products packaged in a single HDF5 file is:

GIGTO-VI1BO _npp_d20030311_t1400000_e1430000_b12345_c20030311153000000000_navo_tst.h5

3.4.2 File-Naming Convention for IDPS Data Formats

Figure 3.4.2-1, IDPS Data Formats File-Naming Convention, and

Table 3.4.2-1, IDPS Data Formats File-Naming Field Descriptions, describe the file-naming convention used for the Data Delivery Reports and Consolidated Data Delivery Reports produced by IDPS. These filenames consist of eight fields for easy reading to the user. The fields are delimited by underscores and the file extension is separated from the fields by a period or dot. The extension is the standard extension for defining an XML file, ".xml". All fields are case-sensitive.

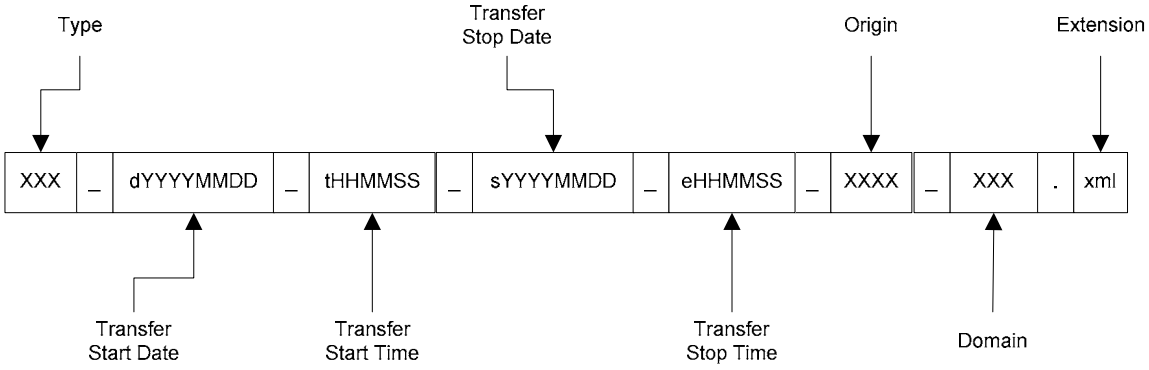


Figure 3.4.2-1, IDPS Data Formats File-Naming Convention

Table 3.4.2-1, IDPS Data Formats File-Naming Field Descriptions

Field Position	Description	Applicable Values	
1	Type This field is a three-character identifier for the type of data product in the file.	**Identifier**	**Description**
		ddr	Data Delivery Report (DDR)
		cdr	Consolidated DDR (CDDR)
2	Field Separator	'_'	
3	Transfer Start Date This field is identified with a "d" followed by year, month and day of the last DDR sent.	dYYYYMMDD YYYY=2005-2030 MM=01-12 DD=01-31	
4	Field Separator	'_'	
5	Transfer Start Time (UTC) Field is identified with a "t" followed by hour, min and sec. The start time is based on the end time of the previous DDR sent when applicable.	tHHMMSS HH=00-23 MM=00-59 SS=00-60	
6	Field Separator	'_'	
7	Transfer Stop Date This field is identified with an "s" followed by year, month and day of the latest file described in the list or the date when the configurable amount of time has elapsed.	sYYYYMMDD YYYY=2005-2030 MM=01-12 DD=01-31	
8	Field Separator	'_'	

Field Position	Description	Applicable Values
9	Transfer Stop Time (UTC) Field is identified with an “e” followed by hour, minutes, and second. The stop time is based either on the configurable time set or on the latest file sent after the number of configurable files have been delivered.	eHHMMSS HH=00-23 MM=00-59 SS=00-60
10	Field Separator	‘_’
11	Origin This field is a three or four-character alpha-numeric identifier for the originator of the file.	For a list of the possible identifiers for this field, see Table 3.4-2, Origin Identifiers at the beginning of this section.
12	Field Separator	‘_’
13	Domain This field is a three-character identifier to further describe the origination of the file. These are the recognized domain values for NPOESS.	For a list of the possible identifiers for this field, see Table 3.4-1, Domain Identifiers at the beginning of this section.
14	Field Separator	**‘.’**
15	Extension The extension indicates the format of the file	xml

An example of this file-naming convention is:

ddr_d20100819_t113029_s20100819_e113529_afwa_ops.xml

3.4.3 C3S Common Filename Fields

This section describes the common filename fields used for C3S data formats. Table 3.4.3-1, C3S Common Filename Fields, lists the fields that may be used to define a particular filename. The file-naming structure for each data format is documented in the File-Naming Construct field within each data format definition.

Table 3.4.3-1, C3S Common Filename Fields

Field Name	Mnemonic/size	Data Range	Description
Spacecraft ID	SSS	npp n01 n02 s01 s02 cmn	Identifies the spacecraft for which the data applies. 'n' – Spacecraft 's' – Simulation 'cmn' should be used when the data in the file is not spacecraft specific
Domain	XXX	Variable For a list of the possible identifiers for this field, see Table 3.4-1, Domain Identifiers at the beginning of this section.	Identifies the circumstance under which this file was created
Type	TTTTT	att – Attitude data set clcw – Command Link code Word dar – Data Accountability Report das – Detailed Activity Schedule eap – Extended Application Packet eapdr – EAP Delivery Report elf – EAP log file eoc – End of Contact eph – Ephemeris etr – EVCDU Tracking Report gps – GPS data set grq – Ground Retransmit Request grs – Ground Retransmit Request Response his – History file ksat – Ground Contact Schedule mnf – Manifest Files mnv – Maneuver data set mssc – Mission Schedule sccdu – Spacecraft Configuration Database Updates scdu – Spacecraft Database Update sema – Semaphore File srq – Spacecraft Retransmit Request srs – Spacecraft Retransmit Response ssr – Solid-State Record files	Three to five-character field that defines the data type. Each Subsystem should provide its own unique types.

Field Name	Mnemonic/size	Data Range	Description
Tool	BBB	arf - Antenna/RF bbs – Baseband cep – Command Encryption Processor chw - Computer Hardware dhn - Data Handling Node dmr - Data Monitor and Recovery ems - Enterprise Management gos - Ground Operations hlm - HRD/LRD Monitor inr - I/F and Routing mms - Mission Management bvs - NPP FVS (B is for Ball) nvs - NPOESS FVS (n is for NGST) oos - Orbit Operations pps - Preprocessor clg - Satellite Operations Command Load Generation ecl - Satellite Operations Telemetry & Command or Stored Telemetry Analysis ECLIPSE Component evl - Stored Telemetry Analysis Evaluation Component	Three-character field identifying the subsystem that created the data.
Year, Month, Day	YYYYMMDD	YYYY=2005-2030 MM=01-12 DD=01-31	ASCII representation of the year, month, and day
Hours, Minutes, Seconds	HHMMSS	HH=00-23 MM=00-59 SS=00-60	ASCII representation of the hours, minutes, and seconds
Milliseconds, Microseconds	MMMuuu	000000 through 999999	ASCII representation of the milliseconds and microseconds within the current second
Extension	.ext	html xml txt doc log ctl rev eph tle	Non-standard extensions are permitted if, and only if, the file contains only binary data.

3.4.4 File-Naming Convention for Auxiliary Data Formats

Auxiliary data is defined as data, other than data included in the sensor application packets, which is produced internally by NPOESS, and is used to produce the Official NPP/NPOESS Data Products. The auxiliary data documented in the CDFCB-X are only those files that are delivered to external users of NPOESS. The file-naming convention for delivered auxiliary files is shown in Figure 3.4.4-1, Auxiliary File-Naming Convention . The list of possible Collection Short Names is provided in Appendix B, NPP/NPOESS Auxiliary Data, Ancillary Data, Reports, and Messages Collection Short Names.

This convention consists of fields, which are delimited by underscores ('_'), and a field containing the file extension, which is delimited by a dot ('.'). Table 3.4.4-1, Auxiliary File-Naming Convention Description, provides the field descriptions for this convention. All fields are case-sensitive.

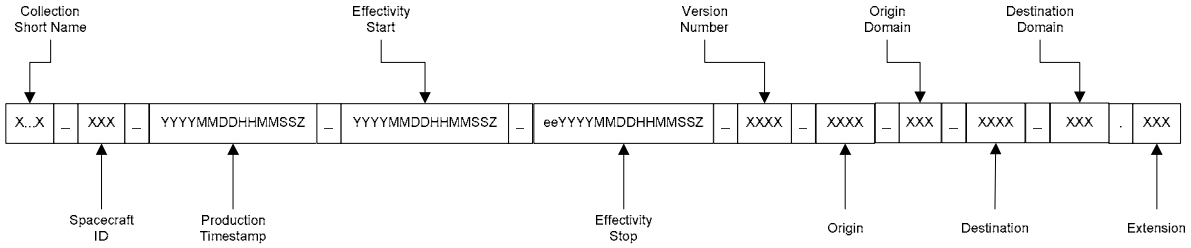


Figure 3.4.4-1, Auxiliary File-Naming Convention

Table 3.4.4-1, Auxiliary File-Naming Convention Description

Field Position	Description	Applicable Values
1	Collection Short Name This field provides the descriptive name of the data.	This name is designated by the Collection Short Name, as given in Appendix B of the CDFCB-X, Volume 1, D34862-01.
2	Field Separator	'_'

Field Position	Description	Applicable Values
3	Spacecraft ID The identifier of the spacecraft for which the data is specified. 'cmn' should be used when the data in the file is not spacecraft specific.	npp n01 n02 s01 s02 cmn
4	Field Separator	'_'
5	Production Timestamp (UTC) The date/time at which the AUX data file was created. The field is in years, months, days, hours, minutes, and seconds and is appended with a 'Z'. This may also serve as the Version Number of the File for C3S provided data.	YYYYMMDDHHMMSSZ YYYY=2005-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59 SS=00-60
6	Field Separator	'_'
7	Effectivity Start (UTC) The date/time of the start of the useful temporal range of the data. The field is in years, months, days, hours, minutes, and seconds and is appended with a 'Z'. May be same as Production Date/Time stamp.	YYYYMMDDHHMMSSZ YYYY=2005-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59 SS=00-60
8	Field Separator	'_'
9	Effectivity Stop (UTC) The field indicates the effectivity stop time by giving the year, month, day, hour, minutes, and seconds. The timestamp is prepended with 'ee' (effectivity end) and is appended with a 'Z'. If the stop time does not apply to a particular file, then ee00000000000000Z is used.	eeYYYYMMDDHHMMSSZ YYYY=2005-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59 SS=00-60
10	Field Separator	'_'

Field Position	Description	Applicable Values
11	Version Number 50 characters or less. Will be alphanumeric or dashes only. The version number is intended for designating a particular version of an auxiliary file. If this field is not used, a single dash should be used. The definition of the version number, if applicable, is defined in the File-Naming Construct field of the applicable data format definition.	Variable-length field
12	Field Separator	'_'
13	Origin The identifier for the IDP/FT or C3S originating the data.	For a list of the possible identifiers for this field, see Table 3.4-2, Origin Identifiers at the beginning of this section.
14	Field Separator	'_'
15	Origin Domain The three-character identifier of C3S or the IDPS processing domain that is distributing the auxiliary data. These are the recognized domain values for NPOESS. There is no specified domain for Field Terminals.	For a list of possible identifiers for this field, see Table 3.4-1, Domain Identifiers, at the beginning of this section.
16	Field Separator	'_'
17	Destination The identifier of the destination IDP/FT that is to use the auxiliary data. If the destination does not apply to a particular file, then 'all-' should be used. A value of '0000' will indicate the factory floor.	For a list of the possible identifiers for this field, see Table 3.4-2, Origin Identifiers at the beginning of this section.
18	Field Separator	'_'
19	Destination Domain The three-character identifier of the destination IDPS processing domain that is to use the auxiliary data. These are the recognized domain values for NPOESS. There is no specified domain for Field Terminals. If the destination domain does not apply to a particular file, then ops should be used.	For a list of the possible identifiers for this field, see Table 3.4-1, Domain Identifiers at the beginning of this section.
20	Field Separator	'.'

Field Position	Description	Applicable Values
21	Extension This field designates the file's format.	h5 xml txt htm html tiff gif bin dmp

An example of this file-naming convention is:

Mission-Schedule-
AUX_npp_20100305131533Z_20100306140000Z_ee20100307140002Z_1000323_noaa_ops_afwa_ops.
xml

3.4.5 File-Naming Convention for Ancillary Data Formats

Ancillary files coming into the system through the IDPS and FTS are retrieved from a variety of sources. Since each source uses its own file-naming convention, the convention shown in Figure 3.4.5-1, Ancillary File-Naming Convention , is used to re-name these files. The re-naming of the filenames will take place at the IDPS/FTS, a single point of entry into the system, in order to avoid cascading changes when conventions from the external sources change and for consistency within the system. The Integrated Support Facility (ISF) updates the Static Ancillary Data filenames that are provided by IDPS in accordance to this specification.

Appendix B, NPP/NPOESS Auxiliary Data, Ancillary Data, Reports, and Messages Collection Short Names, maintains the listing of Collection Long Names to Collection Short Names for compliance with the file-naming convention as shown in Figure 3.4.5-1, Ancillary File-Naming Convention Definition.

This convention consists of fields which are delimited by underscores ('_'), and a field containing the file extension, which is delimited by a dot ('.'). Table 3.4.5-1, Ancillary File-Naming Convention Description, provides the field descriptions for this convention. All fields are case-sensitive.

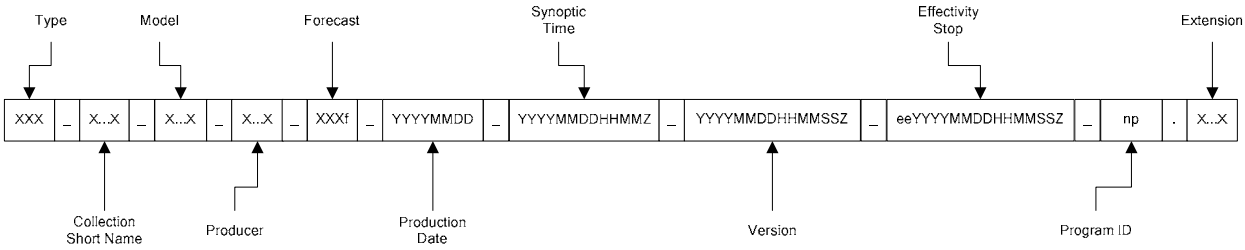


Figure 3.4.5-1, Ancillary File-Naming Convention

Table 3.4.5-1, Ancillary File-Naming Convention Description

Field Position	Description	Applicable Values	
1	File Type	**Identifier**	**Description**
		off	Official Ancillary Data File
		dqm	Data Quality Monitoring
		sub	Substitute Ancillary Data File (used by Central)
2	Field Separator	'_'	
3	Collection Short Name This field provides the descriptive name of the data.	This name is designated by the Collection Short Name, as given in Appendix B of the Common Data Format Control Book - External, Volume I.	
4	Field Separator	'_'	
5	Model The ancillary data generation model name	**Identifier**	**Description**
		GFS	National Centers for Environmental Prediction Global Forecast System
		NAAPS	Navy Aerosol Analysis and Prediction System
		NOGAPS	Navy Operational Global Atmospheric Prediction System
		Ser7	This is the weekly international Earth Rotation Services (IERS) Finals2000 (All)
		Static	Static Ancillary Data
		QA	QA Truth Data

Field Position	Description	Applicable Values	
6	Field Separator	’_’	
7	Producer Source Organization that produced the data file	**Identifier**	**Description**
		AFWA	Dynamic (Back-up for GFS)
		FNMOC	Dynamic (NOGAPS, NAAPS)
		IAGA	Static
		JPL	Static
		KNMI	Static
		NASA	Static
		NCEP	Dynamic (GFS)
		NCARCDAS	Static
		NGDC	Static
		NGMA	Static
		NOAA	Static
		NODCOCL	Static
		SPARC	Static
		TUG87	Static
		USGS	Static
		USF	Static
		USNO	Static (Leap seconds) Dynamic (Ser7)
		ACARS	QA
		AERONET	QA
		ASOS	QA
		BSRN	QA
		OZSND	QA
		RAOB	QA
		SBUOY	QA
		GDAS	QA
		AMSUABT	QA
		MODISTCM	QA
		MODISTGEO	QA
		MODISTSST	QA
8	Field Separator	‘_’	

Field Position	Description	Applicable Values
9	Forecast Time This field identifies the forecast time for the data file – if the data file is an analysis (e.g. there is no forecast time), then the forecast time is '000f.' The time is in hours and is appended with an 'f.'	HHHf 000f – 036f
10	Field Separator	'_'
11	Production Date This field identifies the date that the data was released. Provides year, month, and day – this information is defined by the specific delivered file.	YYYYMMDD YYYY=2005-2030 MM=01-12 DD=01-31
12	Field Separator	'_'
13	Synoptic Time (UTC) This field identifies the model run's synoptic (collection) time for the data within the file. The field is in years, months, days, hours, and minutes and is appended with a 'Z'. The field implies the data effectivity start time for products other than model output.	YYYYMMDDHHMMZ YYYY=2005-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59
14	Field Separator	'_'
15	Version This field provides a timestamp representing the time of update/receive. The field is in years, months, days, hours, minutes, and seconds and is appended with a 'Z'.	YYYYMMDDHHMMSSZ YYYY=2005-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59 SS=00-60
16	Field Separator	'_'
17	Effectivity Stop (UTC) The field indicates the effectivity stop time by giving the year, month, day, hour, minutes, and seconds and is appended with a 'Z'. The timestamp is prepended with 'ee' (effectivity end). If the stop time does not apply to a particular file, then ee00000000000000Z should be used.	eeYYYYMMDDHHMMSSZ YYYY=2005-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59 SS=00-60

Field Position	Description	Applicable Values
18	Field Separator	'_'
19	Program ID Identifies that this is a file from the NPOESS Program	np
20	Field Separator	'.'
21	Extension This field designates the file's format. As an example, a GRIB file would have the extension .grib.	grib grib2 hdfeos hdf h5 ascii bin grd dat obj gr img

An example of this file-naming convention with is:

off_NCEP-GFS-06HR-
ANC_GFS_NCEP_006f_20100304_201003041315Z_20100305140000Z_ee20100321000000Z.grib

This file-naming convention is used for both the static and dynamic ancillary files.

3.4.5.1 File-Naming Convention for the IDPS Terrain Database

This section describes the file-naming convention for the various tiles of the IDPS Terrain Database, described in the CDFCB-X Volume VI. The fields are delimited by underscores and can be of variable length. The file extension is separated from the fields by a period or dot. The extension is the standard extension for defining an HDF5 file. See Figure 3.4.5.1-1, IDPS Terrain Database File-Naming Convention, for a graphical depiction of the convention**Error! Reference source not found.**. All fields are case-sensitive.

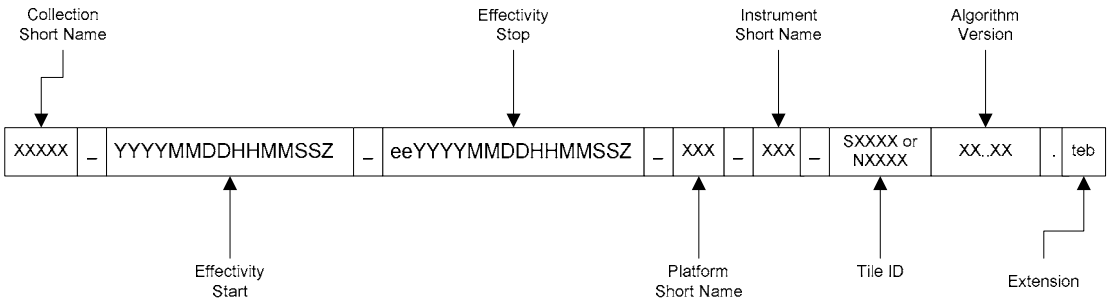


Figure 3.4.5.1-1, IDPS Terrain Database File-Naming Convention

Table 3.4.5.1-2, IDPS Terrain Database File-Naming Field Descriptions

Field Position	Description	Applicable Values
1	Collection Short Name	See Appendix A, NPP/NPOESS Data Product Collection Short Names
2	Field Separator	'_'
3	Effectivity Start The Date/Time of the start of the useful temporal range of the data.	YYYYMMDDHHMMSSZ YYYY=2005-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59 SS=00-60
4	Field Separator	'_'
5	Effectivity Stop The effective stop time of the data – this date is an anticipated date and is not intended to indicate a hard stop period. Based on expected update frequency of the tile. This field is identified with 'ee' prepended to the timestamp. If the stop time does not apply, the default value of ee00000000000000Z will be used.	eeYYYYMMDDHHMMSSZ YYYY=2005-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59 SS=00-60
6	Field Separator	'_'
7	Platform Short Name The identifier of the spacecraft for which the data is specified. This field is a placeholder for future use.	na
8	Field Separator	'_'

Field Position	Description	Applicable Values
9	Instrument Short Name The identifier of the sensor for which the data is specified. This field is a placeholder for future use.	na
10	Field Separator	'_'
11	Tile ID The tile identifier for the particular tile	SXXXX or NXXXX S0000 – S1023 N0000 – N1023
12	Field Separator	'_'
13	Algorithm Version The version of the algorithm used to generate the tile	Variable string of no more than 30 characters A mixture of letters, 'A-Za-z', numbers, '0-9', and hyphens, '-'
18	Field Separator	'.'
19	Extension The extension indicates the format of the file – the IDPS Terrain Database files are delivered as teb files.	teb

An example of this file-naming convention with is:

Terrain-Eco-ANC-Tile_20120402063415Z-ee00000000000000Z_na_na_N1014_I2-34-253.teb

3.4.6 File-Naming Convention for NPOESS Data Product Profiles

NPOESS Data Product Profiles are XML files developed for rendering in the CDFCB-X in order to provide a consistent representation of the various NPP/NPOESS Data Products. These XML files, in addition to the CDFCB-X, are also made available to the community via the NPOESS Documentation Release Packages, see Section 3.4.11, NPOESS Release Packages. Specifically, the NPOESS Data Product Profiles are used to describe the SDRs, TDRs, IPs, ARPs, EDRs, and Geolocation products.

The NPP/NPOESS Data Products contain an HDF5 attribute, at the granule level, named N_NPOESS_Document_Ref (see the CDFCB-X Volume V, D34862-05, for the complete set of metadata and their associated definitions). This element provides the

filename of the applicable CDFCB-X, see Section 3.4.10, NPOESS Documentation File-Naming Convention for the convention details. Since the CDFCB-X must be updated to reflect any changes made to an NPOESS Data Product Profile XML file, the filename of these profiles is synchronized with filename of the CDFCB-X.

The convention for these files is provided in Figure 3.4.6-1, NPOESS Data Product Profile File-Naming Convention Definition. Table 3.4.6-1, NPOESS Data Product Profile File-Naming Convention Description, provides the field descriptions for this convention. Notice that the first four fields of this convention are taken directly from the file-naming convention for the NPOESS Documentation.

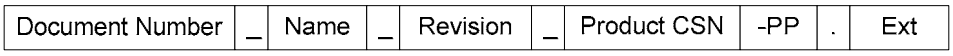


Figure 3.4.6-1, NPOESS Data Product Profile File-Naming Convention

Table 3.4.6-1, NPOESS Data Product Profile File-Naming Convention Description

Field Position	Description	Applicable Values
1	Document Number Number specified by NPOESS Configuration Management	D34862-03 D34862-04-01 D34862-04-02 D34862-04-03 D34862-04-04
2	Field Separator	'_'
3	Name This is the Collection Short Name associated with the relevant CDFCB-X.	Alphanumeric See the CDFCB-X Volume V, D34862-05, Appendix B – NPOESS Delivered Documentation, for the applicable Collection Short Names for the CDFCB-X Volumes
4	Field Separator	'_'
5	Revision or DCO Number Revision letter of the document or the Document Change Order (DCO) number of the document. For example, A1 would be the first DCO to Rev --- of the document, to be incorporated into Rev A.	Rev Number --- [A – Z] DCO Number [A – Z][1 – 9]

Field Position	Description	Applicable Values
6	Field Separator	'_'
7	Product Collection Short Name (CSN) The CSN of the product that is described in the NPOESS Data Product XML file	See Appendix A for the list of applicable Product Collection Short Names
8	Product CSN Suffix This suffix is provided to clearly indicate in the filename that the contents of the file contain an NPOESS Data Product Profile	-PP
9	Field Separator	'.'
10	Extension The appropriate file type extension for the file.	xml

The metadata of a particular NPP/NPOESS Data Product, for example the CrIS IR Ozone IP, would contain the filename of the related release of the CDFCB-X and the NPOESS Data Product Profile via the N_NPOESS_Document_Ref metadata attribute.

In addition to the metadata of the NPP/NPOESS Data Products, a correlation between the NPOESS Data Product Profiles and the CDFCB-X volumes can be made using the filename of the relevant CDFCB-X volume.

For example, the CDFCB-X Volume IV Part 1 contains a data product definition for the CrIS IR Ozone IP, an example of this file-naming convention is:

D34862-04-01_NPOESS-CDFCB-X-Vol-IV-Part-1_A_CrIS-IR-OZ-Prof-IP -PP.xml

The related CDFCB-X filename would be:

D34862-04-01_NPOESS-CDFCB-X-Vol-IV-Part-1_A_0100403_I1.5.02.doc

Knowing the CSN for the particular NPP/NPOESS Data Product of interest would facilitate the correlation to the specific NPOESS Data Product Profile XML file – for this example, the CrIS-IR-OZ-Prof-IP CSN is used.

It is important to note that a full release of all of the NPOESS Data Product Profiles is delivered with each full revision of a CDFCB-X volume. With Document Change Orders, DCO, only in the event that an update is based on an NPOESS Data Product Profile

update is that specific XML file delivered.

The following is provided in order to illustrate using these pieces of information to find the most current version of the related NPOESS Data Product Profile. This example assumes that the last update of the CrIS IR Ozone IP was baselined in the C1 DCO of the CDFCB-X Volume IV Part 1. The current version of the CDFCB-X Volume IV Part 1 is C4.

The user would have the following possible NPOESS Product Profile XML filenames:

D34862-04-01_NPOESS-CDFCB-X-Vol-IV-Part-1_C4_CrIS-IR-OZ-Prof-IP-PP.xml

D34862-04-01_NPOESS-CDFCB-X-Vol-IV-Part-1_C3_CrIS-IR-OZ-Prof-IP-PP.xml

D34862-04-01_NPOESS-CDFCB-X-Vol-IV-Part-1_C2_CrIS-IR-OZ-Prof-IP-PP.xml

D34862-04-01_NPOESS-CDFCB-X-Vol-IV-Part-1_C1_CrIS-IR-OZ-Prof-IP-PP.xml

D34862-04-01_NPOESS-CDFCB-X-Vol-IV-Part-1_B_CrIS-IR-OZ-Prof-IP-PP.xml

Since DCO revisions are sequentially ordered, the inquiry into the most current version would be quickly identified by working back through the possible filename list to the first NPOESS Data Product Profile XML file available:

D34862-04-01_NPOESS-CDFCB-X-Vol-IV-Part-1_C1_CrIS-IR-OZ-Prof-IP-PP.xml

3.4.7 NPP/NPOESS Software Versioning

Figure 3.4.7-1, NPOESS Software Versioning Convention, and Table 3.4.7-1, NPOESS Software Versioning Convention Field Description, describe the Software Versioning convention used for NPOESS software releases. Most fields are delimited by a period, or dot – these are annotated in the figure. This convention aids the user indicating whether a release was/is a full or incremental release based on the version number.

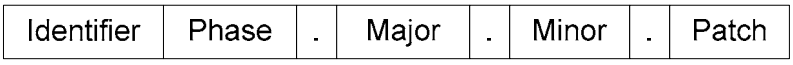


Figure 3.4.7-1, NPOESS Software Versioning Convention

Table 3.4.7-1, NPOESS Software Versioning Convention Field Description

Field Position	Description	Applicable Values
1	Identifier Variable length field from 1-11 characters.	Alphanumeric Example: I
2	Phase Phase of development that the particular software build was created in.	0 – 5
3	Field Separator	'.'
4	Major This is the last major release of the software prior to the software's transfer to the NPOESS Sustainment.	0 – 9
5	Field Separator	'.'
6	Minor The value for the minor release of the software is 0 for all development releases and non-zero for all operational releases. This value is sequential and is incremented for full releases. This field is reset to 00 for each major release.	00 – 99
7	Field Separator	'.'
8	Patch This value represents incremental releases. This field is reset to 00 for each major release.	00 – 99

A software release indicates that a particular software build has been released to the operational NPOESS environment and delivered to the external community. A full release of the software includes all executables (for operational sites) or source code (for CLASS). An incremental release includes only those executables (for operational sites) or source files (for CLASS) that have been updated. All patches to a software release need to be applied in order.

For example, if the last major build released to NPOESS Sustainment is I1.5, then:

- The initial release, first full sustainment release of this software to the operational environment (and the external community) would be I1.5.01.00
    - I – Identifier

  - 1 – Phase
  - 5 – Major
  - 01 – Minor
  - 00 – Patch
- The first patch to software, released to the operational environment (and the external community) would be I1.5.01.01
  - I – Identifier
  - 1 – Phase
  - 5 – Major
  - 01 – Minor
  - 01 – Patch
- The second full sustainment release of this software would be I1.5.02.00
- The fourth patch to the third full sustainment release of this software would be I1.5.03.04

3.4.8 Version Description Document File-Naming Convention

A Version Description Document (VDD) describes the contents of a Release Package and provides the following information, when applicable:

- Reference Documents - Lists the number, title, revision, and date of all documents referenced. This section also identifies the source for all documents not available through normal Government stocking activities.
- Inventory of Materials Released - Identifies numbers, titles, abbreviations, dates, version numbers, and release numbers, as applicable, all physical media and associated documentation that make up the Release Package. This section also includes applicable security and privacy considerations for these items, safeguards for handling them, such as concerns for static and magnetic fields, as well as instructions and restrictions regarding duplication and license provisions.

Includes a list of the files by filename, size, and Message Digest 5 (MD5) Algorithm Checksum.

- Inventory of Software Contents – Identifies the contents included in a Software Release Package. Includes a list of the files by filename, size, and Message Digest 5 (MD5) Algorithm Checksum.
- Change Installed - Lists all changes included in the Release Package since the previous version release. If change classes have been used, such as the Class I/Class II, the changes shall be separated into these classes. This section also identifies, as applicable, the problem reports, change proposals, and change notices associated with each change and the effects, if any, on system operations and on interfaces with other hardware and software. This section does not apply to an initial release.
- Adaptation Data - Identifies or references all site unique data (i.e., IDPS configuration guides) contained in the Release Package, if applicable. For Release Packages after the initial release, this section describes only changes made since the previous release.
- Related Documents - Identifies numbers, titles, abbreviations, dates, version numbers, and release numbers, as applicable, of all documents pertinent to the Release Package which are not included in the specific package
- Installation/Deployment Instructions – Lists each piece of software and provides the steps to load the software and any extra instructions needed for setup/configuration, as applicable. Includes the following subsections:
    - Software Install Instructions
    - System Requirements
    - Commercial Off The Shelf (COTS) Versions
    - Changes and Site Unique Adaptations
    - Security, Privacy, and Safety
    - Installation Check

- Point of Contact

- Significant Problems and Known Errors - Identifies any significant problems or known errors with the contents of the Release Package at the time of release, any steps being taken to resolve the problems or errors, and instructions (either directly or by reference) for recognizing, avoiding, correcting, or otherwise handling each one. The information presented shall be appropriate to the intended recipient of the Release Package.

- Algorithm Version – Provides insight into specific changes that have been made to the IDP software. The VDD provides a list of each software algorithm and its current corresponding version by way of an Algorithm Version Lineage Table, for an example see Table 3.4.8-1, Algorithm Version Lineage Table Example. The description field lists the Software Problem Change Request (SPCR) and Tech Memos relative to a given algorithm update. Each algorithm will have its own Algorithm Lineage file which includes the history of the algorithm included in the software distribution. The naming convention of the Algorithm Lineage file is defined in Section 3.4. This information is correlated with the NPOESS/NPP Data Products via the metadata element N_Algorithm_Version, see the CDFCB-X Volume V for the definition of this element.

- Notes - Contains any general information that aids in understanding the document (e.g., background information, glossary, rationale). Includes an alphabetical listing of acronyms, abbreviations, and their meanings as used and a list of any terms and definitions needed in addition to the NPOESS Acronyms and NPOESS Glossary.

Table 3.4.8-1, Algorithm Version Lineage Table Example

Field Name	ID	Description
Phase	1	1
Category ID	O	Operational Version
Science ID	1	01-01-09 Drop

	2	03-15-09 Drop
	3	Full implementation of Tech Memo dated 2-2-06, implementation of paragraph 1b of 2-12-06 memo
Software ID	1	Initial Operational version
	2	PCR 1000: bug fix xxxxx
	3	PCR 1100: bug fix yyyyy

The VDD is provided in a Microsoft Office XML format. Each file listing is provided with the full path as provided by the installation of the Release Package. These listings are prefixed with the phrase, “file::” and are followed by their respective checksums. An example of this is:

file::id83FX1LEkiT4QjfSan40wFkw92LMeo4 /IDPS/I1.4.00.04/aix/Makefile

VDDs accompany every Release Package delivered from NPOESS. These files are both included in the Release Packages as well as accompanying them as a separate file. See Section 3.4.11, NPOESS Release Packages, for more information about Release Packages. Figure 3.4.8-1, Version Description Document File-Naming Convention, and Table 3.4.8-1, Version Description Document File-Naming Convention Field Description, describe the file-naming convention used for VDDs. These documents contain a list of the entire configuration that represents the last full delivery plus all patches, in their correct order.

Figure 3.4.8-1, Version Description Document File-Naming Convention

Table 3.4.8-1, Version Description Document File-Naming Convention Field Description

Field Position	Description	Applicable Values

Field Position	Description	Applicable Values
1	NPOESS Version Description Document (VDD) Static string indicating that this file is a Version Description Document	NPOESS-VDD
2	Field Separator	'_'
3	Release Identifier Identifies the type of Release Package that the given VDD is associated with.	NPOESS-Software-RP NPOESS-Supporting-Data-RP NPOESS-Documentation-RP NPOESS-Test-Data-RP
4	Field Separator	'_'
5	Release Date The date that the software is released for delivery to the external community. The date does not indicate the effectivity of the software. The release date of the VDD is the same as the package release date.	YYYYMMDDHHMMSS YYYY=2005-2030 MM=01-12 DD=01-31 HH=00-23 MM=00-59 SS=00-60
6	Field Separator	'_'
7	Software (SW) Version The full versioning of the NPOESS Software	See the Section 3.4.7, NPOESS Software Versioning
8	Field Separator	'.'
9	Extension The appropriate file type extension for the document	xml

An example of a VDD filename would be:

NPOESS-VDD_NPOESS-Software-RP_20100801120000_I1.5.02.03.xml

3.4.9 Software Build File-Naming Convention

The NPOESS Software is distributed in two ways to the community. The first method is as executable files, which are delivered only to the operational sites within the NPOESS domain. The second is a Red Hat Package Manager (RPM) file containing all of the source code needed to create the NPP/NPOESS Data Products, which is delivered to the external community. The NPOESS Software, depending on the release, may contain the entire NPOESS baseline (Full) or just the files that require an update (Incr)

Figure 3.4.9-1, Software Build File-Naming Convention, and Table 3.4.9-1, Software Build File-Naming Convention Field Description, describe the Software Build file-naming convention used for NPOESS software builds.

Figure 3.4.9-1, Software Build File-Naming Convention

Table 3.4.9-1, Software Build File-Naming Convention Field Description

Field Position	Description	Applicable Values
1	NPOESS Software Static string indicating that this file contains NPOESS Software	NPOESS-Software
2	Field Separator	'_'
3	Identifier Identifies the type of the software included in the file. The identifier IDPS is indicative of the entire NPOESS software baseline (Windows and AIX).	IDPS IDPS-Win-DDS IDPS-Win-INF IDPS-Win-DQM IDPS-AIX IDPS-AIX-ADA
4	Field Separator	'_'
5	Executable Identifier Indicates whether the software is the source code (src) or an executable/binary (cat or cat1).	src cat cat1
6	Field Separator	'_'
7	Type The type of the software release – a full or incremental release	Full Incr
8	Field Separator	'_'
9	Release Date The date that the software is released for delivery to the external community. This date does not indicate effectivity of the software.	YYYYMMDD YYYY=2005-2030 MM=01-12 DD=01-31
10	Field Separator	'_'

Field Position	Description	Applicable Values
11	Software (SW) Version The full versioning of the NPOESS Software	See the Section 3.4.7, NPOESS Software Versioning
12	Field Separator	'-'
13	Release Indicates the number of times this version of the software has been packaged.	0 – 20
14	Field Separator	'-'
15	Architecture A shorthand name describing the type of computer hardware the packaged software is meant to run on. This field is required only for RPM files	<architecture><version>.noarch Where the architecture is that of the operating system used to create the RPM and the version is defined by the version of the operating system (when applicable) Architectures: aix Example: aix5.3.noarch
16	Field Separator	'.'
17	Extension The appropriate file type extension for the document	rpm exe

An example of a Software Build filename would be:

NPOESS-Software_IDPS_src_Full_20100801_I1.5.02.03-0-aix5.3.noarch.rpm

3.4.10 Documentation File-Naming Convention

NPOESS maintains and delivers a vast set of documents which describe the various data produced and delivered by the program. The various documents cover:

- Science Documents
- Interface Control Documents
- Software Documents
- Specifications
- System Documents

A list of the documents delivered by NPOESS is maintained in the CDFCB-X Volume V, D34862-05, Appendix B – NPOESS Delivered Documentation. Every document delivered by NPOESS to the external community is given a unique filename following the convention described in Figure 3.4.10-1, Documentation File-Naming Convention and Table 3.4.10-1, Documentation File-Naming Convention Field Description.

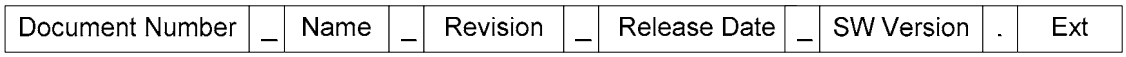


Figure 3.4.10-1, Documentation File-Naming Convention

Table 3.4.10-1, Documentation File-Naming Convention Field Description

Field Position	Description	Applicable Values
1	Document Number Number specified by NPOESS Configuration Management	Alphanumeric
2	Field Separator	'_'
3	Name This is the Collection Short Name associated with this document.	Alphanumeric See the CDFCB-X Volume V, D34862-05, Appendix B – NPOESS Delivered Documentation, for the applicable Collection Short Names
4	Field Separator	'_'
5	Revision or DCO Number Revision letter of the document or the Document Change Order (DCO) number of the document. For example, A1 would be the first DCO to Rev --- of the document, to be incorporated into Rev A.	Rev Number --- [A – Z] DCO Number [A – Z][1 – 9]
6	Field Separator	'_'
7	Release Date The date that the document is released for delivery to the external community. This date does not indicate effectivity of the documentation.	YYYYMMDD YYYY=2005-2030 MM=01-12 DD=01-31
8	Field Separator	'_'

Field Position	Description	Applicable Values
9	Software Version Includes the Major and Minor release of the software version of the related software release. Does not include the Patch number. For example, I1.5.01	[Identifier][Phase].[Major].[Minor] – based on Section 3.4.7, NPOESS Software Versioning
10	Field Separator	'.'
11	Extension The appropriate file type extension for the document.	doc pdf xml mdb

An example of a document filename would be:

D34862-01_CDFCB-X-Volume-I-Overview_A_20100415_ I1.5.02.pdf

3.4.11 NPOESS Release Packages

NPOESS Release Packages are the method of delivery for information from NPOESS to the community, both internal and external. Every NPOESS Release Package both contains, and is delivered with a VDD, in the form of an XML file. These VDDs provide insight into the contents of the Release Package, as well as the change information relevant to the material sent. In addition to the VDDs, the Release Packages are accompanied by an XML formatted Software and Documentation Delivery Manifest file; see the CDFCB-X Volume VI, D34862-06, for its data format definition. A Release Package Installation Script is also included in the delivery of the release packages. This script is a software tool provided to aide the user in installing the Release Packages included in the delivery. Figure 3.4.11-1, General Release Package Delivery, provides a graphical depiction of a generic Release Package delivery.

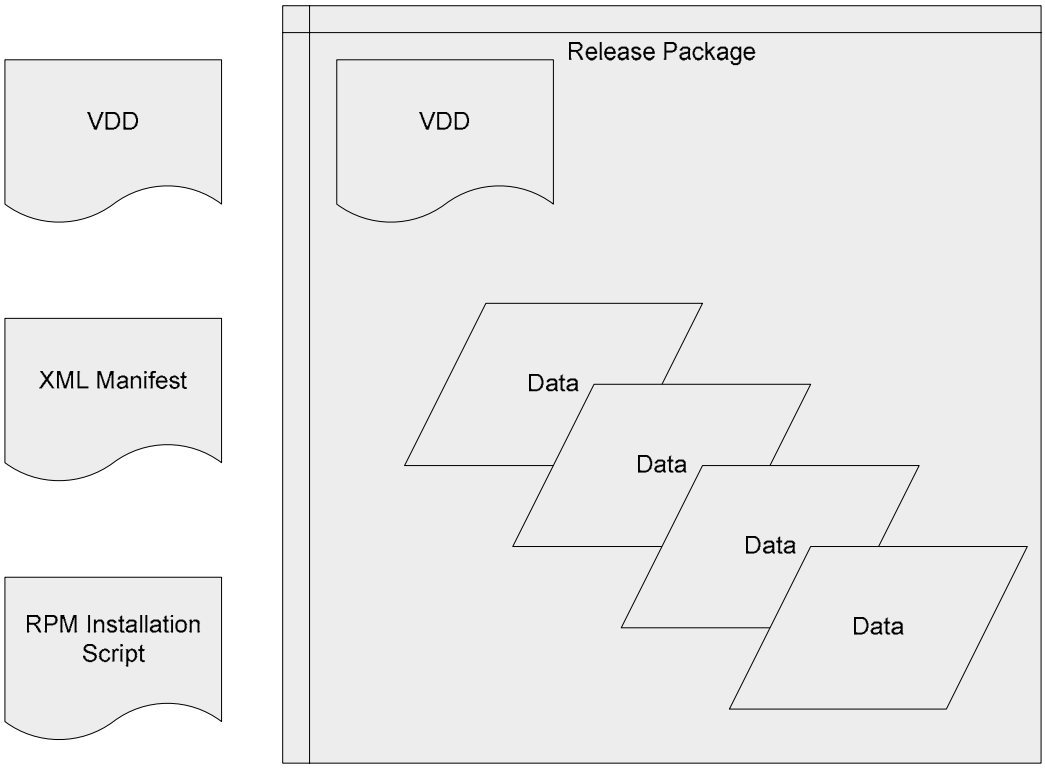


Figure 3.4.11-1, General Release Package Delivery

There are four types of Release Packages that can be sent:

- Software Release Packages
- Supporting Data Release Packages
- Documentation Release Packages
- Test Data Release Packages

NPOESS Release Packages can be delivered either as a Full Release or Partial Release.

A Full Release by NPOESS consists of all four Release Packages: Software, Supporting Data, Documentation, and Test Data. A Partial Release by NPOESS consists of only that information which has been modified since the last release (regardless if the last release is a Full or Partial Release). The Release Packages delivered by NPOESS are determined by the modifications that are made. For example,

if an update occurs to some source files in the NPOESS Software baseline, only a Software Release Package, with its VDD, XML Manifest file, and Release Package Installation Script are delivered. If one or more documents are updated, then a Documentation Release Package, again with its VDD and XML Manifest file, are delivered. A Partial Release will contain one XML Manifest file, one Release Package Installation Script, and any VDD/Release Package combination (one or more) necessary. Figure 3.4.11-2, Full Release Delivery, provides a graphical depiction of the delivery for a Full Release by NPOESS. Figure 3.4.11-3, Partial Release Delivery, provides a graphical depiction of a Partial Release where some documentation and software files have been updated.

In the event that a file included in a Release Package has exceeded a size of 1.9 GiB, the contents of the RPM file will be split into separate RPM files in order to be packaged in the Release Package and therefore multiple RPM files may constitute a single release package. A single VDD will be provided per release package. This is true for packages with a single RPM file and packages with multiple RPM files. Upon installation of a Release Package, any files that were split will be concatenated back together as part of the Release Packages install mechanism.

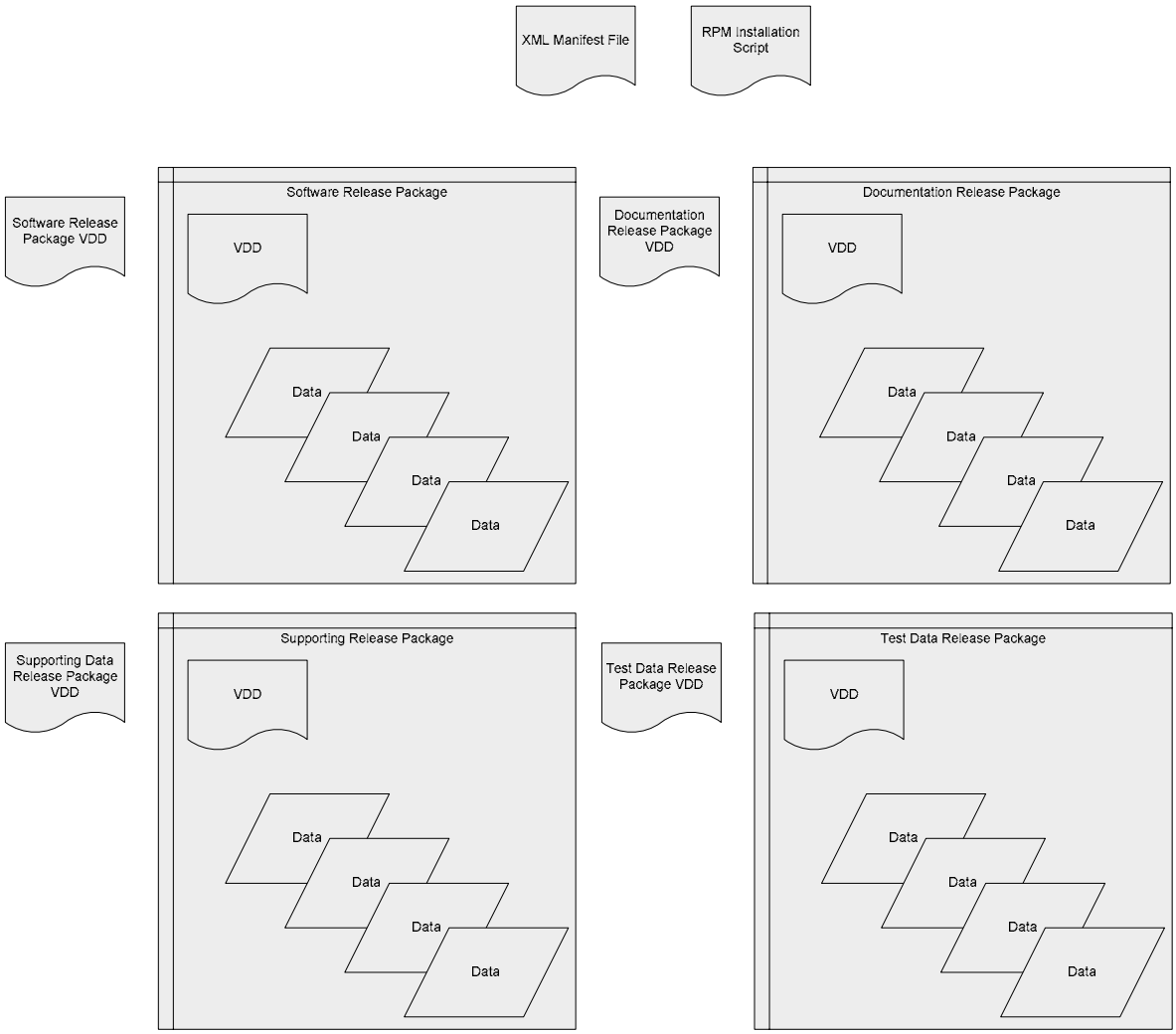


Figure 3.4.11-2, Full Release Delivery

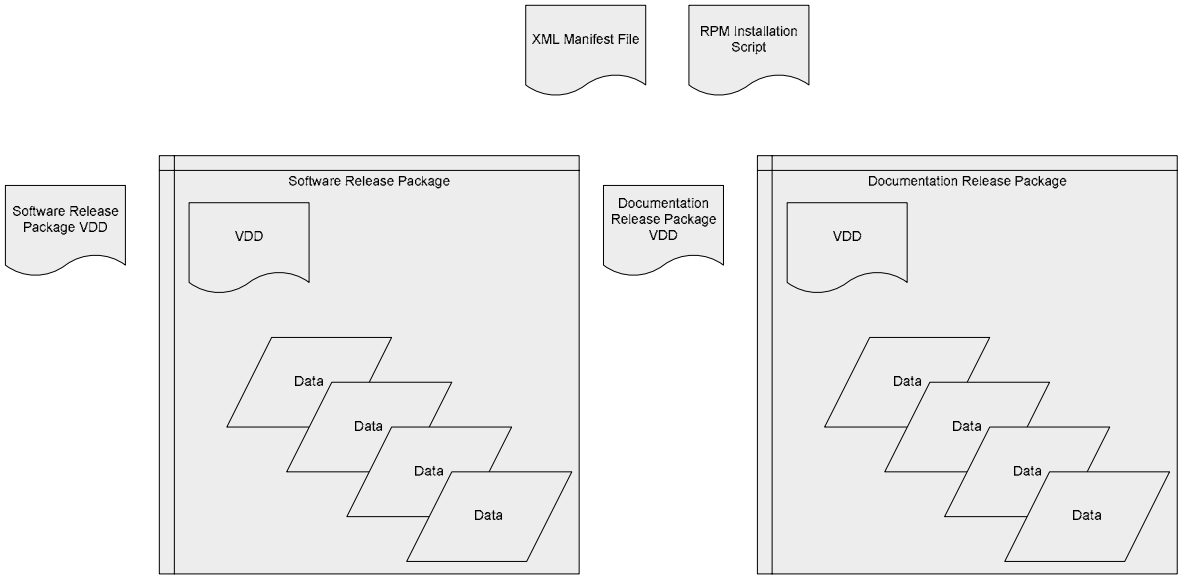


Figure 3.4.11-3, Example Partial Release Delivery

3.4.11.1 Software Release Packages

The NPOESS Software baseline is delivered via Software Release Packages. These Release Packages may contain the entire NPOESS baseline (Full Release), or only files that have been updated since the last Release Package was delivered (Partial Release). Every Software Release Package includes the software version relevant to the data included in the Release Package, in the filename of the Release Package, the VDD, the Software Build Filename, and the Configuration Files. See 3.4.7, NPOESS Software Versioning, for more information on the versioning convention and see Section 3.4.9, Software Build File-Naming Convention. All Software Release Packages require an increment of the software version.

Each Full Release will contain the latest version of each file in the NPOESS Software baseline. Partial Releases will only contain those files that have been modified since the last Software Release Package. The VDD will document which files have been modified

and a list of all problem reports (with a mapping to the impacted source files) that have been fixed in the particular release.

The RPM system is used to bundle, compress, and deliver the Software Release Packages to the external community. One advantage of this system is the capability of RPM to enforce the appropriate application of the Software Release Packages relevant to Partial Releases – ensuring that the patches are applied in the correct order. See http://rpm.org for more information on the capabilities and implementation of RPMs.

For those files included in a Partial Release, a checksum of the updated (patched) file is provided in the VDD. Checksums allow the end user to confirm that they have constructed the software baseline with all patches applied correctly.

The possible files included are listed in Table 3.4.11.1-1, Software Release Package Possible Contents. In a Full Release, all of the relevant files are included in the Release Package. Figure 3.4.11.1-1, Software Release Packages File-Naming Convention, and Table 3.4.11.1-2, Software Release Packages File-Naming Convention Field Description, describe the file-naming convention used for Software Release Packages.

Table 3.4.11.1-1, Software Release Package Possible Contents

Contents	Description
VDD	VDDs accompany all Release Packages
Source Code	The source code files for an NPOESS Software distribution. May contain a full release of the system or updated files for an incremental release
Executables	The binary files for an NPOESS Software distribution. May contain all of the executables of the system (full release) or only the specific executables pertinent to an update (incremental) Executables are delivered to the Centrals only.
Look Up Tables (LUT)	These tables are used to create NPP/NPOESS Data Products and are expected to be static in nature. There may be updates to these over time, as most of them are based on Radiative Transfer Models (RTM). See the CDFCB-X Volume VIII, D34862-08, for more information on LUTs.

Contents	Description
Configuration Files	There are many configuration files associated with the NPOESS Software. Consult the relevant VDD and User's Manuals for more information.
Software User's Manuals	Software User's Manuals are included with the NPOESS Software baseline, an example would be the Data Delivery Graphical User Interface (GUI) Guide

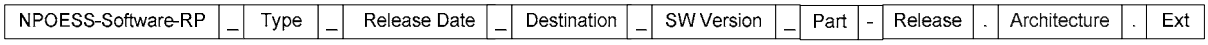


Figure 3.4.11.1-1, Software Release Packages File-Naming Convention

Table 3.4.11.1-2, Software Release Packages File-Naming Convention Field Description

Field Position	Description	Applicable Values	
1	NPOESS Software Release Package Static string indicating that this file contains NPOESS Software	NPOESS-Software-RP	
2	Field Separator	'_'	
3	Type The type of the software release – a full or incremental release	Full Incr	
4	Field Separator	'_'	
5	Release Date The date that the software is released for delivery to the external community. This date does not indicate effectivity of the software.	YYYYMMDD YYYY=2005-2030 MM=01-12 DD=01-31	
6	Field Separator	'_'	
7	Destination Indicates the destination for the software.	**Identifier**	**Description**
		ext	External Community (e.g., CLASS)
		ops	Operations (used to denote all Centrals)
		afw	AFWA
		noa	NOAA
		nav	NAVOCEANO
		fnm	FNMOC
		ada	Algorithm Development Area
8	Field Separator	'_'	
9	Software (SW) Version The full versioning of the NPOESS Software	See Section 3.4.7, NPOESS Software Versioning	
10	Field Separator	'_'	

Field Position	Description	Applicable Values
11	Part	PartXofY X contains the number of the Release Package number Y contains the number of parts that the Release Package was broken into This tells the user how many parts to expect. Example: Part2of3
12	Field Separator (hyphen)	'-'
13	Release Indicates the number of times this version of the software has been packaged and released.	0 – 20
14	Field Separator	'.'
15	Architecture A shorthand name describing the type of computer hardware the rpm is meant to run on. This field is required only for RPM files	<architecture><version>.noarch Where the architecture is that of the operating system used to create the RPM and the version is defined by the version of the operating system (when applicable) Architectures: aix Example: aix5.3.noarch
16	Field Separator	'.'
17	Extension The appropriate file type extension for the software.	rpm

An example of a Software Release Package filename is:

NPOESS-Software-RP_Full_20100812_ext_I1.5.02.03_Part1of2-0.aix5.3.noarch.rpm

3.4.11.2 Supporting Data Release Packages

The NPOESS Software baseline requires supporting data in order to produce NPP/NPOESS Data Products. The data designated as Supporting Data includes various Auxiliary Data, Static Ancillary Data, and the Seed data (such as the Quarterly Surface Type (QST) Intermediate Product). These Release Packages may contain the entire set of Supporting Data (Full Release), or only files that have been updated since

the last Release Package was delivered (Partial Release). Every Supporting Data Release Package filename includes the software version (see Section 3.4.7, NPOESS Software Versioning for more information on the versioning convention) that it is applicable to. The software version is also included in the VDD filename and contents. Supporting Data Release Packages do not require an increment of the software version.

Each Full Release will contain the latest version of each file in the NPOESS Supporting Data baseline. Partial Releases will only contain those files that have been modified since the last Supporting Data Release Package. The VDD will document which files have been modified and a list of all problem reports (with a mapping to all impacted source files) that have been fixed in the particular release.

In addition to the functionality of the RPM system used to bundle, compress, and deliver the Supporting Data Release Packages to the external community, a Release Package Number is provided to indicate the order of the Release Packages.

For those files included in a Partial Release, a checksum of the updated (patched) file is provided in the VDD. These checksums allow the end user to confirm that they have constructed the supporting data baseline with all patches applied correctly.

The possible files included are listed in Table 3.4.11.2-1, Supporting Data Release Package Possible Contents. In a Full Release, all of the relevant files are included in the Release Package. Figure 3.4.11.2-1, Supporting Data Release Packages File-Naming Convention, and Table 3.4.11.2-2, Supporting Data Release Packages File-Naming Convention Field Description, describe the file-naming convention used for Supporting Data Release Packages.

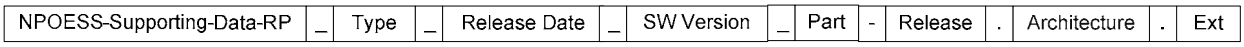


Figure 3.4.11.2-1, Supporting Data Release Packages File-Naming Convention

Table 3.4.11.2-2, Supporting Data Release Packages File-Naming Convention Field Description

Field Position	Description	Applicable Values
1	NPOESS Supporting Data Release Package Static string indicating that this file contains NPOESS Supporting Data	NPOESS-Supporting-Data-RP
2	Field Separator	'_'
3	Type The type of the supporting data release – a full or incremental release	Full Incr
4	Field Separator	'_'
5	Release Date The date that the software is released for delivery to the external community. This date does not indicate effectivity of the software.	YYYYMMDD YYYY=2005-2030 MM=01-12 DD=01-31
6	Field Separator	'_'
7	Software (SW) Version Includes the Major and Minor release of the software versioning of the related software release. Does not include the Patch number. For example, I1.5.01	[Identifier][Major].[Minor]
8	Field Separator	'_'
9	Part	PartXofY X contains the number of the Release Package number Y contains the number of parts that the Release Package was broken into This tells the user how many parts to expect. Example: Part2of3
10	Field Separator (hyphen)	'-'

Field Position	Description	Applicable Values
11	Release This value represents the number of releases needed to obtain the current baseline.	0 – 20
12	Field Separator	'.'
13	Architecture A shorthand name describing the type of computer hardware the rpm is meant to run on. This field is only for RPM files	<architecture><version>.noarch Where the architecture is that of the operating system used to create the RPM and the version is defined by the version of the operating system (when applicable) Architectures: aix Example: aix5.3.noarch
14	Field Separator	'.'
15	Extension The appropriate file type extension for the release package.	rpm

An example of a Supporting Data Release Package filename is:

NPOESS-Support-Data-RP_Full_20100812_I1.5.02_Part2of2-0.aix5.3.noarch.rpm

3.4.11.3 Documentation Release Packages

The NPOESS Documentation is necessary to understand how NPOESS works and to understand the science behind and the formats of the NPP/NPOESS Data Products. These Release Packages may contain the entire set of NPOESS Documentation (Full Release), or only files that have been updated since the last Release Package was delivered (Partial Release). Every Documentation Release Package filename includes the software version (see Section 3.4.7, NPOESS Software Versioning for more information on the versioning convention) that it is applicable to. The software version is also included in the VDD filename and contents (the software version included is only the identifier, major, and minor portions of the applicable software version).

Documentation Release Packages do not require an increment of the software version.

Each Full Release will contain the latest version of each file in the NPOESS Documentation suite. Partial Releases will only contain those documents that have been modified since the last Documentation Release Package. The VDD will annotate which documents have been modified and a list of all problem reports (with a mapping to the impacted source files) that have been fixed in the particular release.

For those files included in a Partial Release, a checksum of the updated documents are provided in the VDD, these checksums allow the end user to confirm that they have unpackaged all of the documents correctly.

The possible files included are listed in Table 3.4.11.3-1, Documentation Release Package Possible Contents. In a Full Release, all of the relevant files are included in the Release Package. Figure 3.4.11.3-1, Documentation Release Packages File-Naming Convention, and Table 3.4.11.3-2, Documentation Release Packages File-Naming Convention Field Description, describe the file-naming convention used for Documentation Release Packages.

The list of documentation included in the Documentation Release Package is provided in the CDFCB-X Volume V – Metadata, Appendix B.

Table 3.4.11.3-1, Documentation Release Package Possible Contents

Contents	Description
VDD	VDDs accompany all Release Packages
External Interface Control Documents (ICD)	ICDs describe the logical and physical interfaces to the various connections of NPOESS to the external community.
Common Data Format Control Book – External (CDFCB-X)	The CDFCB-X provides the data format definitions and conventions used to produce and provide NPOESS data.
NPOESS Data Product Profile XML Files	The NPP/NPOESS Data Products are rendered in the CDFCB-X via NPOESS Data Product Profile XML files. These XML files are provided to external users.
Operational Algorithm Documents (OAD)	OADs describe the implementation of the NPOESS Software for producing and delivering NPP/NPOESS Data Products.

Contents	Description
Algorithm Theoretical Basis Documents (ATBD)	ATBDs describe the science behind the algorithms used in the NPOESS Software baseline for producing NPP/NPOESS Data Products.
Specifications	These specifications cover many areas of the NPOESS, from the specifications of the entire system to those of Field Terminal construction and implementation.
Glossary and Acronyms	The NPOESS Glossary and NPOESS Acronyms are necessary to understand the various terms and acronyms used in the NPOESS documentation.

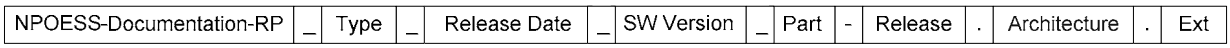


Figure 3.4.11.3-1, Documentation Release Packages File-Naming Convention

Table 3.4.11.3-2, Documentation Release Packages File-Naming Convention Field Description

Field Position	Description	Applicable Values
1	NPOESS Documentation Release Package Static string indicating that this file contains NPOESS Documentation	NPOESS-Documentation-RP
2	Field Separator	'_'
3	Type The type of the documentation release – a full or incremental release	Full Incr
4	Field Separator	'_'
5	Release Date The date that the software is released for delivery to the external community. This date does not indicate effectivity of the software.	YYYYMMDD YYYY=2005-2030 MM=01-12 DD=01-31
6	Field Separator	'_'

Field Position	Description	Applicable Values
7	Software Version Includes the Major and Minor release of the software versioning of the related software release. Does not include the Patch number. For example, I1.5.01	[Identifier][Major].[Minor]
8	Field Separator	'_'
9	Part	PartXofY X contains the number of the Release Package number Y contains the number of parts that the Release Package was broken into This tells the user how many parts to expect. Example: Part2of3
10	Field Separator (hyphen)	'-'
11	Release Indicates the number of times this version of the documentation has been packaged or delivered.	0 – 20
12	Field Separator	'.'
13	Architecture A shorthand name describing the type of computer hardware the rpm is meant to run on. This field is required only for RPM files	<architecture><version>.noarch Where the architecture is that of the operating system used to create the RPM and the version is defined by the version of the operating system (when applicable) Architectures: aix Example: aix5.3.noarch
14	Field Separator	'.'
15	Extension The appropriate file type extension for the release package.	rpm

An example of a Documentation Release Package filename is:

NPOESS-Documentation-RP_Full_20100812_ext_I1.5.02_Part1of1-0.aix5.3.noarch.rpm

3.4.11.4 Test Data Release Packages

NPOESS Test Data Release Packages contain data used to verify the installation of the NPOESS software. This set of data includes input, expected output data, and scripts to run tests. These Release Packages may contain the entire set of NPOESS Test Data (Full Release), or only files that have been updated since the last Release Package was delivered (Partial Release). Every Supporting Data Release Package filename includes the software version (see Section 3.4.7, NPOESS Software Versioning for more information on the versioning convention) that it is applicable to. The Software Version is also included in the VDD filename and contents. Test Data Release Packages do not require an increment of the software version.

Each Full Release will contain the latest version of each file in the NPOESS Test Data suite. Partial Releases will only contain those documents that have been modified since the last Release Package. The VDD will annotate which Test Data files have been modified and a list of all problem reports (with a mapping to the impacted source files) that have been fixed in the particular release.

For those files included in a Partial Release, a checksum of the updated Test Data files are provided in the VDD, these checksums allow the end user to confirm that they have unpackaged all of the data correctly.

The possible files included are listed in Table 3.4.11.4-1, Test Data Release Package Possible Contents. In a Full Release, all of the relevant files are included in the Release Package. Figure 3.4.11.4-1, Test Data Release Packages File-Naming Convention, and Table 3.4.11.4-2, Test Data Release Packages File-Naming Convention Field Description, describe the file-naming convention used for Test Data Release Packages.

Table 3.4.11.4-1, Test Data Release Package Possible Contents

Contents	Description
VDD	VDDs accompany all Release Packages
Test Data	Input data and expected output data, used to verify the installation of the NPOESS software from source
Test scripts	Scripts used to run tests on the system, intended to aid in verifying the installation of the NPOESS software from source

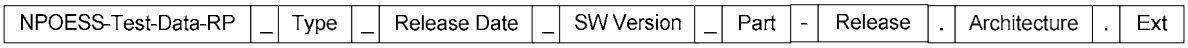


Figure 3.4.11.4-1, Test Data Release Packages File-Naming Convention

Table 3.4.11.4-2, Test Data Release Packages File-Naming Convention Field Description

Field Position	Description	Applicable Values
1	NPOESS Test Data Release Package Static string indicating that this file contains NPOESS Test Data	NPOESS-Test-Data-RP
2	Field Separator	'_'
3	Type The type of the test data release – a full or incremental release	Full Incr
4	Field Separator	'_'
5	Release Date The date that the test data is released for delivery to the external community. This date does not indicate effectivity of the test data.	YYYYMMDD YYYY=2005-2030 MM=01-12 DD=01-31
6	Field Separator	'_'
7	Software (SW) Version Includes the Major and Minor release of the software versioning of the related software release. Does not include the Patch number. For example, I1.5.01	[Identifier][Major].[Minor]
8	Field Separator	'_'
9	Part	PartXofY X contains the number of the Release Package number Y contains the number of parts that the Release Package was broken into This tells the user how many parts to expect. Example: Part2of3
10	Field Separator (hyphen)	'-'

Field Position	Description	Applicable Values
11	Release Indicates the number of times this version of the test data has been packaged since the last full release.	0 – 20
12	Field Separator	'.'
13	Architecture A shorthand name describing the type of computer hardware the rpm is meant to run on. This field is required only for RPM files	<architecture><version>.noarch Where the architecture is that of the operating system used to create the RPM and the version is defined by the version of the operating system (when applicable) Architectures: aix Example: aix5.3.noarch
14	Field Separator	'.'
15	Extension The appropriate file type extension for the release package.	rpm

An example of a Documentation Release Package filename is:
NPOESS-Test-Data-RP_Full_20100812_ext_I1.5.02_Part2of3-0.aix5.3.noarch.rpm

3.4.12 File-Naming Convention for Algorithm Lineage Files

The Algorithm Lineage files provide insight into the specific changes that have been made to a particular algorithm. Each algorithm will have its own Algorithm Lineage File documenting the different iterations of the algorithm throughout the history of the algorithm. Figure 3.4.12-1, Algorithm Lineage File Naming Convention, and Table 3.4.12-1, Algorithm Lineage File Naming Convention Description, describe the file-naming convention used for the Algorithm Lineage File

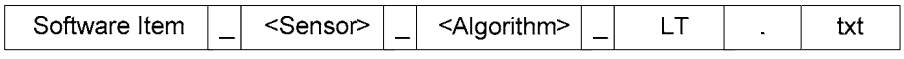


Figure 3.4.12-1, Algorithm Lineage File Naming Convention

Table 3.4.12-1, Algorithm Lineage File Naming Convention Description

Field Position	Description	Applicable Values

Field Position	Description	Applicable Values
1	Software Item Group that originates the change to the Algorithm	PRO
2	Field Separator	'_'
3	Output name from Sensors	See the CDFCB Vol 1 Appendix D for a list of the sensors CrIMSS
4	Field Separator	'_'
5	Algorithm Name Name of specific algorithm that has changed	Alphanumeric
6	Field Separator	'_'
7	Lineage Table Static string indicating that this file is a Lineage Table	LT
8	Field Separator	'.'
9	Extension Static string indicating that this file is a text document	txt

An example of this file-naming convention is:

PRO_VIIRS_AOT_LT.txt

3.4.13 File-Naming Convention for Release Package Installation Scripts

In order to ensure that the Release Package delivery (full and partial), can be installed properly, a Release Package Installation Script is provided to accompany the delivery. This script is written in Perl and documented appropriately for user to implement directly or review for instruction. Figure 3.4.13-1, Release Package Installation Script File Naming Convention, and Table 3.4.13-1, Release Package Installation Script File Naming Convention Description, describe the file-naming convention used for the RPM Installation Script file.

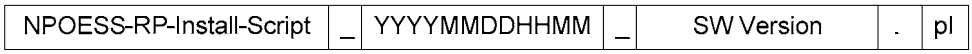


Figure 3.4.13-1, Release Package Installation Script File Naming Convention

Table 3.4.13-1, Release Package Installation Script File Naming Convention Description

Field Position	Description	Applicable Values
1	NPOESS Release Package Installation Script	NPOESS-RP-Install-Script
2	Field Separator	'_'
3	Timestamp This provides versioning and facilitates uniqueness in the filename	YYYYMMDDHHMM
4	Field Separator	'_'
5	Software (SW) Version Includes the Major and Minor release of the software versioning of the related software release. Does not include the Patch number. For example, I1.5.01.01	[Identifier][Major].[Minor]
6	Field Separator	'.'
7	Extension Static string indicating that this file is a Perl script	pl

An example of this file-naming convention is:

NPOESS-RP-Install-Script_201004130830_I1.5.00.35.pl

3.5 NPP/NPOESS Data Product HDF5 Overview

NPP/NPOESS Data Products are delivered as HDF5 files. HDF5 is a general purpose file format and library designed and developed by the National Center for Supercomputing Applications (NCSA). HDF5 was developed to provide flexible, portable and efficient storage and retrieval of scientific datasets.

NPOESS uses the HDF5 structure to implement a specific data model for the NPP/NPOESS Data Products. For a crosswalk of data types between C, C++, and Java, see Appendix I.

Figure 3.5-1, NPOESS HDF5 Conceptual Diagram, provides a graphical depiction of the NPOESS HDF5 implementation for the NPP/NPOESS Data Products and deliverables. As can be seen in the depiction, there are 6 major areas of the HDF5 file:

1. XML User Block (HDF5 User Block)
2. Root Group
3. Data
4. Product Group
5. Aggregation
6. Granule

The following sections describe in detail the elements of this diagram.

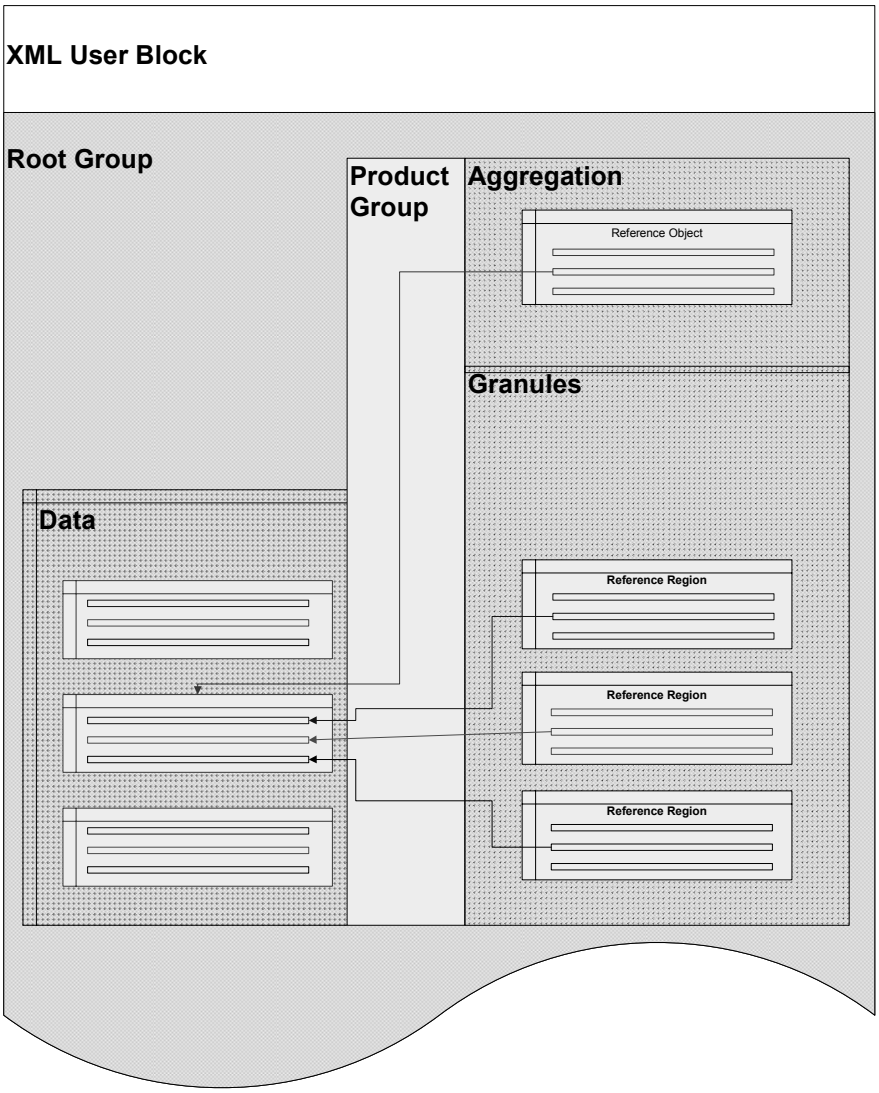


Figure 3.5-1, HDF5 Conceptual Diagram

3.5.1 Terminology

Table 3.5.1-1, NPOESS Data Product Common Terms, is provided for clarity in presenting the concepts of the NPOESS Data Product HDF5 files. These terms are not provided to detract from the definitions provided in the NPOESS Glossary, but are an addendum to the Glossary with respect to their usage in the CDFCB-X. Those terms also found in the NPOESS Glossary are marked with an asterisk, '*'.

Table 3.5.1-1, NPOESS Data Product Common Terms

Term	Definition

Term	Definition
Aggregation	A collection of granules, within an NPOESS HDF5 file. This will be a contiguous array for SDR/EDR/TDR/IP products. For RDR products, the aggregation's object ID dereferences (or "points") to an HDF5 group that contains one or more datasets. These datasets are the individual RDR granules. Granules are ordered temporally. The aggregation can be accessed with the HDF5 reference object.
Attribute	An attribute is a single, named parameter that has one or more values (where more than one value is applicable, the list of values is stored as an array in the NPOESS HDF5 File).
Granule*	A grouping of measurement or derived data (and/or data arrays) spanning a defined period (e.g., 28.6 seconds) and integer number of sensor scans. Definition varies for sensors and EDRs. The granule(s) can be accessed through the HDF5 reference regions provided in the NPOESS HDF5 Files.
HDF5 User Block	A subset of metadata attributes stored in the NPOESS HDF5 File. The User Block can be thought of as a "header" on top of the HDF5 file stored as ASCII and is viewable without the need of the HDF5 API.
Metadata*	Attributes that are attached to datasets and groups within the NPOESS HDF5 file which help identify and describe the data. All of the groups and datasets within the HDF5 file, with the exception of the All_Data hierarchy and the Data_Products Group, have a set of these attributes.
NPOESS Data Product Profile	An XML representation of Granule properties. Each Product Profile describes the contents and properties of a granule (e.g., parameter names, data types, data dimensions, measurement units, which dimension is the aggregation dimension). The NPOESS Data Product Profiles are rendered as tables in the CDFCB–X.
NPOESS HDF5 File	An aggregation of one or more data product granules with associated metadata. The file organization is depicted with a UML diagram. The granules within a file are described by the Product Profile. The data within the granule is ordered and presented following the Style Guide. An NPOESS HDF5 file is usually one granule type, although multiple granule types are allowed (e.g., measurement and geolocation granules delivered together or multiple measurements sharing the same geolocation.) Using the HDF5 API, a user can retrieve granules either singly or together. The organization within the HDF5 file can be explained by using the example of a directory tree. Within the file there is a root directory with two sub-directories, these sub-directories are named "All_Data" and "Data_Products". The All_Data directory contains all of the data that was requested, and the Data_Products directory contains sub-directories which help to organize the data, references to allow extraction of the data, and metadata to identify and describe the data.
RDR*	Raw data received from the spacecraft and packaged into HDF5 is referred to as a Raw Data Record (RDR). The data granules composing an RDR are the actual CCSDS application packets from the sensor, and don't directly map into a set of data arrays. Granules that compose the RDR HDF5 files are aggregated application packets for a given sensor.
Style Guide	Section 3.5.4, Data Product Style Guide, constrains the possible choices for how data is stored within a granule: Grid, Swath, and/or Sparse Array.
UML Diagram (Class Diagram)	Provides a visual depiction of the NPOESS HDF5 file organization

3.5.2 The NPOESS HDF5 User Block

A special feature of HDF5 is that the file can be divided into two portions, a header called a User Block which does not require an HDF5 reader and the remaining part that contains the HDF5 data. For NPOESS files, the user block is XML written in ASCII text that provides a quick-look into the metadata attributes contained in the HDF5 file. Note that the HDF5 API will discover the beginning of the binary HDF5 file (the root group) regardless of the length of the User Block. See the CDFCB-X Volume V, D34862-05, for the data format definitions for the NPOESS XML User Block. Figure 3.5.2-1, NPOESS HDF5 Contents, provides a depiction of the User Block and HDF5 binary portion of the HDF5 file.

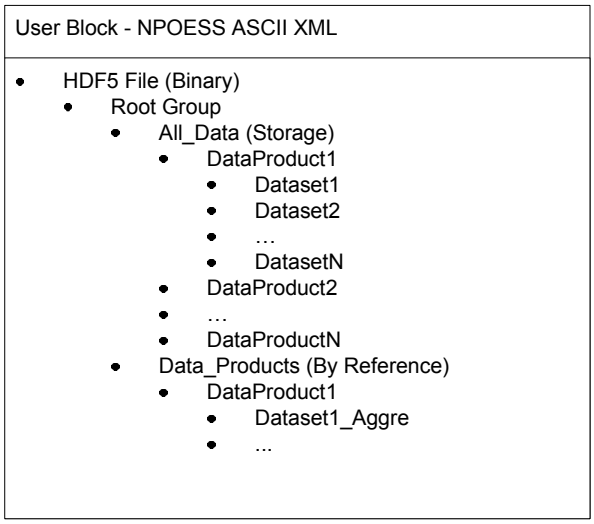


Figure 3.5.2-1, NPOESS HDF5 Contents

3.5.2.1 Inside the NPOESS HDF5 File

An HDF5 file is a data abstraction stored in binary form that follows the HDF5 data model. The HDF5 data model organizes information in a hierarchical fashion beginning with the root group, symbolically represented with the "/" marker. Beneath the root group is the "All_Data" group and the "Data_Products" group. The Data_Products group however, is key to understanding the data and must be used to access each product's metadata. The Data_Products group acts as a container for one or more specific data

products in the HDF5 file. Each specific data product is named with its corresponding NPOESS Data Product Collection Short Name, for a list of these short names see Appendices A and B.

Figure 3.5.2.1-1, NPOESS HDF5 File Screen Capture (HDF View 2.4) Example, shows a screen shot of a sample VIIRS HDF5 file rendered in HDF View, Version 2.4 for Windows. Note that HDF View labels the root group with the HDF5 filename rather than the "/" that would be displayed using an HDF5 utility such as h5dump.

Beneath the root group in this example is the Data_Products group that contains the VIIRS Cloud Base Height EDR (VIIRS-CBH-EDR).

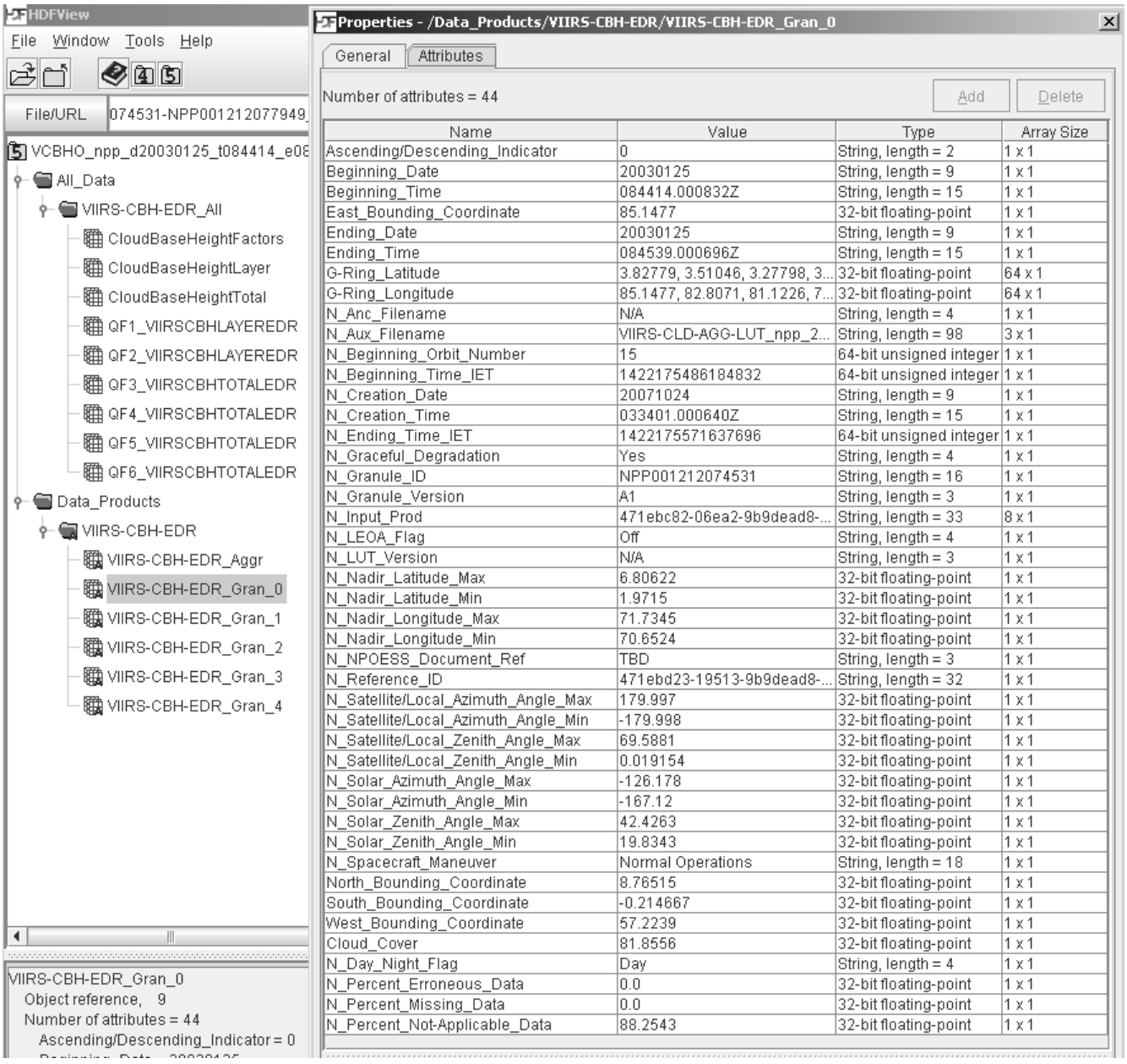
Each product contains one aggregation dataset and at least one granule dataset. The aggregation dataset is an HDF dataset that contains an array of HDF references. These references "point" or dereference to contiguous blocks of data for each field in a product. It is a convenient way to access all of the data in an aggregation for a particular field at once.

The granule dataset is an HDF dataset that contains an array HDF references that dereference to just that granule's data for each field in a product. The set of data that a particular HDF reference dereferences to is a subset of the entire aggregation dataset. The aggregation can be thought of as a collection array of granules. Each HDF5 file will contain only one aggregation per product group. The temporal range of the aggregation is set by the requester of the NPP/NPOESS Data Products from NPOESS.

In addition to showing the hierarchy of the NPOESS HDF5 file, Figure 3.5.2.1-1, NPOESS HDF5 File Screen Capture (HDF View 2.4) Example, also shows granule level metadata for the first granule (VIIRS-CBH-EDR_Gran_0). Metadata is stored in the NPOESS HDF5 file as HDF5 attributes at the following four levels:

- Root group
- Product Group
- Aggregation Reference Dataset
- Granule Reference Dataset

Metadata for any level lower than the granule level does not exist in the NPOESS HDF5 file. However, quality flags stored as HDF5 datasets do exist. These flags provide information at a pixel/cell level for the datasets in a particular product.



Name	Value	Type	Array Size
Ascending/Descending_Indicator	0	String, length = 2	1 x 1
Beginning_Date	20030125	String, length = 9	1 x 1
Beginning_Time	084414.000832Z	String, length = 15	1 x 1
East_Bounding_Coordinate	85.1477	32-bit floating-point	1 x 1
Ending_Date	20030125	String, length = 9	1 x 1
Ending_Time	084539.000696Z	String, length = 15	1 x 1
G-Ring_Latitude	3.82779, 3.51046, 3.27798, 3...	32-bit floating-point	64 x 1
G-Ring_Longitude	85.1477, 82.8071, 81.1226, 7...	32-bit floating-point	64 x 1
N_Anc_Filename	N/A	String, length = 4	1 x 1
N_Aux_Filename	VIIRS-CLD-AGG-LUT_npp_2...	String, length = 98	3 x 1
N_Beginning_Orbit_Number	15	64-bit unsigned integer	1 x 1
N_Beginning_Time_IET	1422175486184832	64-bit unsigned integer	1 x 1
N_Creation_Date	20071024	String, length = 9	1 x 1
N_Creation_Time	033401.000640Z	String, length = 15	1 x 1
N_Ending_Time_IET	1422175571637696	64-bit unsigned integer	1 x 1
N_Graceful_Degradation	Yes	String, length = 4	1 x 1
N_Granule_ID	NPP001212074531	String, length = 16	1 x 1
N_Granule_Version	A1	String, length = 3	1 x 1
N_Input_Prod	471ebc82-06ea2-9b9dead8-...	String, length = 33	8 x 1
N_LEOA_Flag	Off	String, length = 4	1 x 1
N_LUT_Version	N/A	String, length = 3	1 x 1
N_Nadir_Latitude_Max	6.80622	32-bit floating-point	1 x 1
N_Nadir_Latitude_Min	1.9715	32-bit floating-point	1 x 1
N_Nadir_Longitude_Max	71.7345	32-bit floating-point	1 x 1
N_Nadir_Longitude_Min	70.6524	32-bit floating-point	1 x 1
N_NPOESS_Document_Ref	TBD	String, length = 3	1 x 1
N_Reference_ID	471ebd23-19513-9b9dead8-...	String, length = 32	1 x 1
N_Satellite/Local_Azimuth_Angle_Max	179.997	32-bit floating-point	1 x 1
N_Satellite/Local_Azimuth_Angle_Min	-179.998	32-bit floating-point	1 x 1
N_Satellite/Local_Zenith_Angle_Max	69.5881	32-bit floating-point	1 x 1
N_Satellite/Local_Zenith_Angle_Min	0.019154	32-bit floating-point	1 x 1
N_Solar_Azimuth_Angle_Max	-126.178	32-bit floating-point	1 x 1
N_Solar_Azimuth_Angle_Min	-167.12	32-bit floating-point	1 x 1
N_Solar_Zenith_Angle_Max	42.4263	32-bit floating-point	1 x 1
N_Solar_Zenith_Angle_Min	19.8343	32-bit floating-point	1 x 1
N_Spacecraft_Maneuver	Normal Operations	String, length = 18	1 x 1
North_Bounding_Coordinate	8.76515	32-bit floating-point	1 x 1
South_Bounding_Coordinate	-0.214667	32-bit floating-point	1 x 1
West_Bounding_Coordinate	57.2239	32-bit floating-point	1 x 1
Cloud_Cover	81.8556	32-bit floating-point	1 x 1
N_Day_Night_Flag	Day	String, length = 4	1 x 1
N_Percent_Erroneous_Data	0.0	32-bit floating-point	1 x 1
N_Percent_Missing_Data	0.0	32-bit floating-point	1 x 1
N_Percent_Not-Applicable_Data	88.2543	32-bit floating-point	1 x 1

Figure 3.5.2.1-1, NPOESS HDF5 File Screen Capture (HDF View 2.4) Example

An alternative method of viewing the NPOESS HDF5 file is through the idiom of the Unified Modeling Language (UML) class diagram. Figure 3.5.2.1-2, NPOESS HDF5

UML Diagram, illustrates the basic paradigm for an NPOESS HDF5 file. (Note that the actual metadata attached to each level (root, data product, aggregation, or granule) is not provided in the diagram, but is instead listed in the appropriate volume of the CDFCB-X:

- CDFCB-X Volume II – RDR Formats, D34862-02
- CDFCB-X Volume III – SDR/TDR Formats, D34862-03
- CDFCB-X Volume IV – EDR/IP/ARP Formats, D34862-04

The definitions of the metadata attributes are documented in the CDFCB-X Volume V - Metadata, D34862-05.

In the diagram, the blue hyphenated lines from the Reference Objects and Reference Regions represent the HDF5 dereference operation. Object IDs stored in the aggregation/granule datasets dereference to data stored in the Dataset_Arrays of the All_Data group.

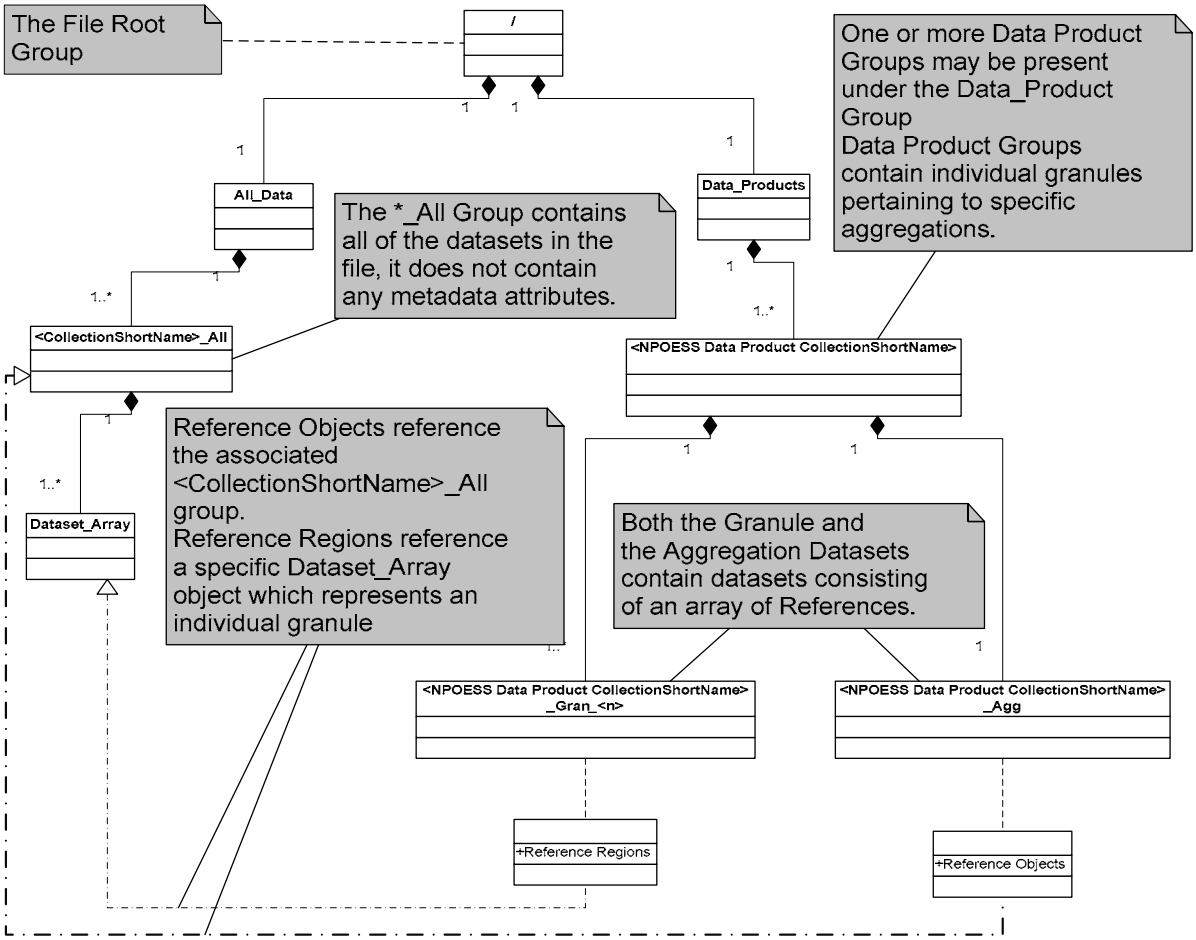


Figure 3.5.2.1-2, NPOESS HDF5 UML Diagram (For RDRs only)

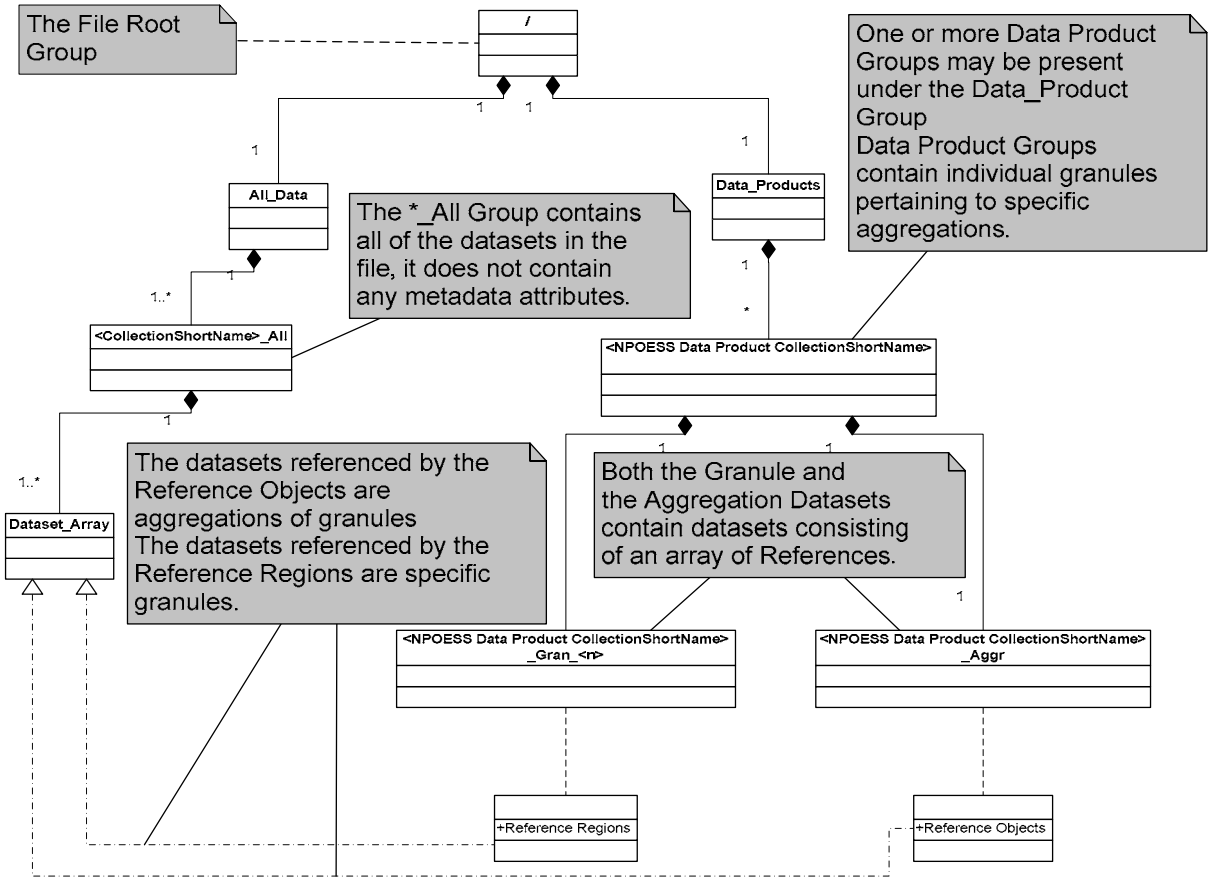


Figure 3.5.2.1-3, NPOESS HDF5 UML Diagram (For SDR/TDR/EDR/IP/ARPs only)

Table 3.5.2.1-1, Product Profile for VIIRS CBH EDR

<table>
<tr><th>Name</th><th>Data Size</th><th>Dimensions</th></tr>
<tr><td>LayerCloudBaseHeight</td><td>2byte(s)</td><td>
<table>
<tr><th>Name</th><th>Granule Boundary</th><th>Dynamic</th><th>Min Array Size</th><th>Max Array Size</th></tr>
<tr><td>AlongTrack</td><td>Yes</td><td>No</td><td>96</td><td>96</td></tr>
<tr><td>CrossTrack</td><td>No</td><td>No</td><td>508</td><td>508</td></tr>
<tr><td>Layer</td><td>No</td><td>No</td><td>4</td><td>4</td></tr>
</table>
<table>
<tr><th colspan="10">Datum</th></tr>
<tr><th>Description</th><th>Datum Offset</th><th>Unscaled Valid Range Min</th><th>Unscaled Valid Range Max</th><th>Measurement Units</th><th>Scaled</th><th>Scale Factor Name</th><th>Data Type</th><th>Fill Values</th><th>Legend Entries</th></tr>
<tr><td>Cloud Base Height - layered product (ordered from top of atmosphere to surface)</td><td>0</td><td>0</td><td>20</td><td>km</td><td>Yes</td><td>CBHFactors</td><td>unsigned 16-bit integer</td><td>
<table>
<tr><th>Name</th><th>Value</th></tr>
<tr><td>NA_UINT16_FILL</td><td>65535</td></tr>
<tr><td>MISS_UINT16_FILL</td><td>65534</td></tr>
<tr><td>ERR_UINT16_FILL</td><td>65531</td></tr>
<tr><td>ELINT_UINT16_FILL</td><td>65530</td></tr>
<tr><td>VDNE_UINT16_FILL</td><td>65529</td></tr>
<tr><td>SOUB_UINT16_FILL</td><td>65528</td></tr>
</table>
</td><td>
<table>
<tr><th>Name</th><th>Value</th></tr>
</table>
</td></tr>
</table>
</td></tr>
</table>

The NPOESS Data Product Profile defines the structure of a single NPP/NPOESS Data Product granule. In the NPOESS-HDF5 file, a granule consists of one or more dataset arrays. Each array is represented as a separate field in the NPOESS Data Product Profile, see Table 3.5.2.1-1, Product Profile for VIIRS CBH EDR Example. Although the granule in the VIIRS CBH EDR is made up of multiple fields (LayerCloudBaseHeight, AverageCloudBaseHeight, Quality Flags and Scale/Offset Factors), for simplicity this example shows only the LayerCloudBaseHeight field.

The hierarchy of the product profile begins with the “Fields” element in the first row. Included in each field are:

- The size of data (“Data Size”)
- The dimensions (“Dimensions”) of the data arrays
- The details about the datum (“Datum”) included in each array

The “Dimensions” element shown in Table 3.5.2.1-2, VIIRS CBH EDR Dimensions Element Example, describes the structure of the data array. The “Name” element describes the dimension of the data array (“AlongTrack”, “CrossTrack”, and “Layer”), but this name does not appear in the HDF5 granule itself. In order to retrieve the dimensions of a given dataset array, a user needs to query using the HDF5 API. The order of the dimensions returned by the HDF5 API is the order listed in the product profile.

Table 3.5.2.1-2, VIIRS CBH EDR Dimensions Element Example

Dimensions				
Name	**Granule Boundary**	**Dynamic**	**Min Array Size**	**Max Array Size**
AlongTrack	Yes	No	96	96
CrossTrack	No	No	508	508
Layer	No	No	4	4

“Granule Boundary” indicates the dimension that is contiguous (in time) over granule boundaries. In other words, this is the dimension in which the granules are concatenated in an aggregation. In the case of the VIIRS CBH EDR example, the granules are aggregated in the AlongTrack dimension rather than the CrossTrack or the

Layer dimension.

Figure 3.5.2.1-1, Granule Boundary Diagram, provides a graphical depiction of a dataset aggregated on a granule boundary. As can be seen in the diagram, the dataset is aggregated on the indicated “Granule Boundary”. This diagram also indicates the areas of the dataset that the Reference Region and Reference Objects reference, or point to, in the HDF5 file.

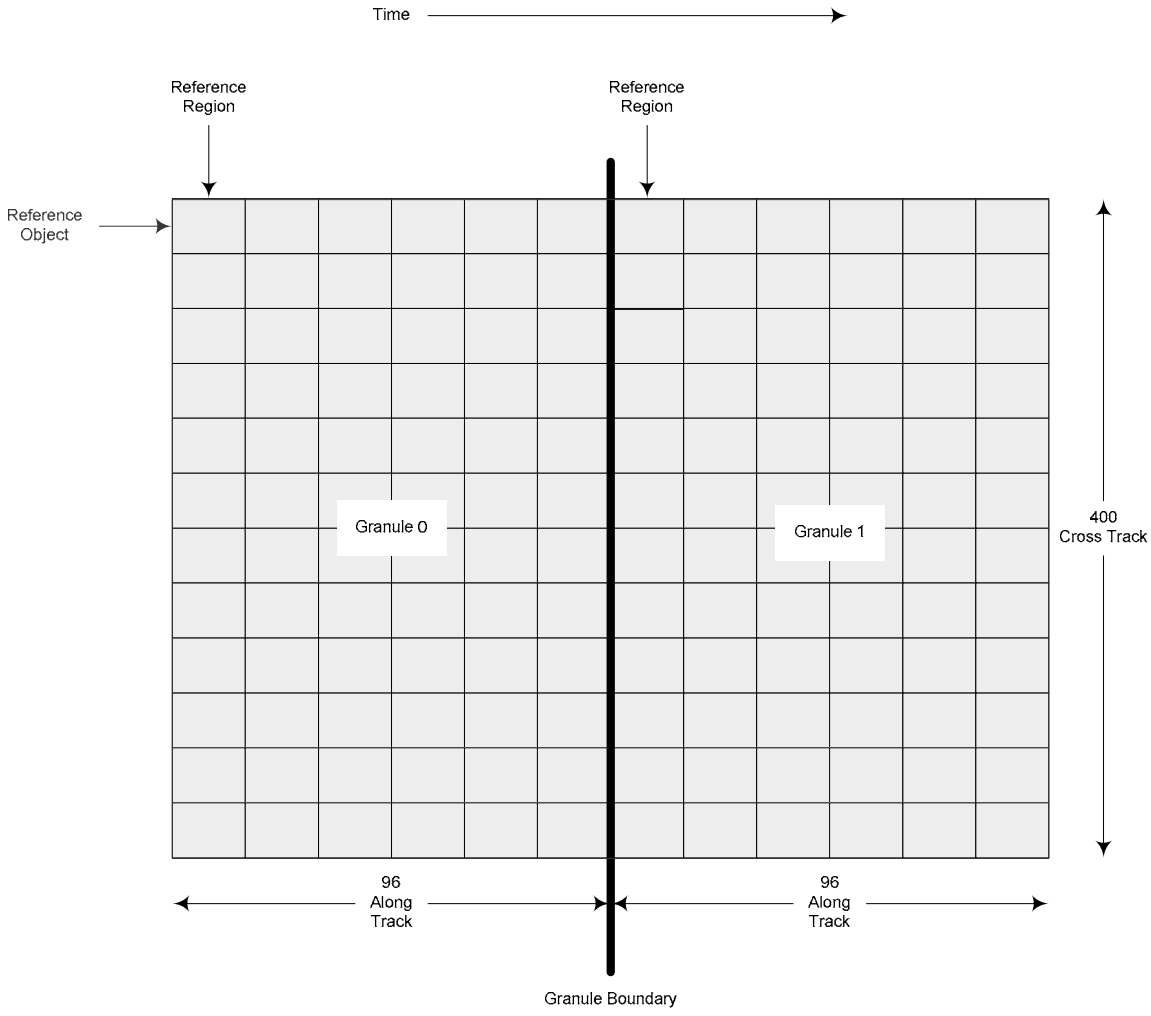


Figure 3.5.2.1-1, Granule Boundary Diagram

The “Dynamic” element indicates whether the dimensions of a particular data array vary in size or not. The granule size is static in this example. Min/Max Array Size indicates the smallest/largest possible array size for this dimension. For products with static

dimensions, the “Min Array Size” will always equal the “Max Array Size.

Table 3.5.2.1-3, VIIRS CBH EDR Datum Element Example

Datum										
Description	**Datum Offset**	**Unscaled Validated Range Min**	**Unscaled Validated Range Max**	**Measurement Units**	**Scaled**	**Scale Factor Name**	**Data Type**	**Fill Values**		**Legend Entries**
Cloud Base Height - layered product (ordered from top of atmosphere to surface)	0	0	20	km	Yes	CBHFactors	unsigned 16-bit integer	**Name** / **Value**: NA_UINT16_FILL 65535; MISS_UINT16_FILL 65534; ERR_UINT16_FILL 65531; ELINT_UINT16_FILL 65530; VDNE_UINT16_FILL 65529; SOUB_UINT16_FILL 65528		**Name** / **Value**

The “Description” in Table 3.5.2.1-3, VIIRS CBH EDR Datum Element Example, provides a description of the individual pieces of data contained in an individual dataset array.

The “Datum Offset” in this instance refers to a bit offset and is not related to offset as in a scale/offset pair. This bit offset indicates the number of bits to skip within the byte before this datum begins. For datum sized to an integer number of bytes (1 byte, 2 bytes, 4 bytes, etc.) this offet is zero. Quality flags, however, are placed within single byte fields and are sized anywhere from 1 bit to 8 bits. The datum offset for these flags will be 0, 1, 2, etc, depending on the flag’s location within the byte. If a byte contains more than one quality flag (as do most quality flag bytes), this bit offset is provided in order to allow the user to parse the bit pattern to extract the flag. The “Unscaled Validated Range Min” and “Unscaled Validated Range Max” represent the range over which the EDR data is validated by NPOESS as per the NPOESS System Specification. However, actual values may appear outside of this range which may or may not be anomalous. This data range refers to the product’s unscaled values (the expected geophysical values with no scale or offset applied.) The “Measurement Units” field also refers to the unscaled values contained in this dataset array.

The “Scale” element indicates whether this product has been scaled or not. If a data array has been scaled, the corresponding scaling coefficients are stored in the “Scale Factor Name” dataset.

The “Scale Factor Name” indicates the name of the HDF5 dataset that holds this datum’s scaling coefficients. The coefficients are stored in polynomial order C_0, C_1, ..., C_n. All NPP/NPOESS Data Products that are scaled are linearly scaled. Therefore, only the two coefficients (C_0=offset and C_1=scale) are present. See Appendix H, NPP and Applicable NPOESS Data Scaling, for the table of NPP/NPOESS Data Products that are scaled.

“Data Type” refers to the generic data type of the values stored in the dataset arrays. See Appendix I, HDF5 Data Types Crosswalk, for a list of the various data types and their equivalent HDF5, C++, C, and Java data types. When a product is scaled, “Data Type” is described using a generic data type rather than a type specific to HDF, C++, C or Java; for example, “unsigned 16-bit integer” instead of “UINT16” or “H5T_NATIVE_UINT”. The fill values are always of the same data type as the type listed in the “Data Type” column.

In Table 3.5.2.1-3, VIIRS CBH EDR Datum Element Example, the Cloud Base Height – Layered field is initially output as a 32-bit floating point value and then scaled to an unsigned 16-bit integer. Note that the NPOESS Data Product Profile indicates the integer value only. “Unscaled Validated Range Min”, ”Unscaled Validated Range Max”, and “Measurement Units” correspond to the unscaled floating point value while “Data Type” and “Fill Values” correspond to the scaled unsigned 16-bit integer value. The fill values always match the “Data Type” and correspond to the data array values stored in the HDF5 file while the range and measurement units correspond to the unscaled values. In those cases where scaling is not used, all of these elements refer to the same “Data Type”.

Table 3.5.2.1-3, VIIRS CBH EDR Datum Element Example, also shows six fill values. They are of the same “Data Type” (unsigned 16-bit integer) as the scaled values. Fill value definitions are in Section 3.5.6, Fill Values. Not all of the fill values are listed in this example due to the fact that they are not applicable.

Table 3.5.2.1-4, VIIRS CBH EDR Quality Flag Product Profile Example

Fields

Name	Data Size	Dimensions

QF2_VIIRSCBHLAYEREDR — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
AlongTrack	Yes	No	96	96
CrossTrack	No	No	508	508
Layer	No	No	4	4

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values (Name / Value)	Legend Entries (Name / Value)
Overall Quality	0			unitless	No		2 bit(s)		No Retrieval 0 Low 1 Medium 2 High 3
Out of bounds - More than 50% of pixels in Horizontal Cell are outside of the system spec valid range.	2			unitless	No		1 bit(s)		False 0 True 1
Non Convergent Pixels - More than 50% of pixels in Horizontal Cell are non-convergent (This flag indicates that one of the upstream algorithms did not converge (COP or CTP) for those cloud EDRs whose algorithms do not “converge”)	3			unitless	No		1 bit(s)		False 0 True 1
Pixels with COT > 1.0 in Horizontal Cell > 50%	4			unitless	No		1 bit(s)		False 0 True 1
Spare	5			unitless	No		3 bit(s)		

Table 3.5.2.1-4, VIIRS CBH EDR Quality Flag Product Profile Example, shows an example of the NPOESS Data Product Profile for Quality Flag2. The quality flags contained within this byte are listed under “Description” of the “Datum” section. The “Legend Entries” element provides details regarding name/value pairs for each quality flag. This element is used for quality flags with quality bits stored in one or more bytes (quality flags do not cross byte-boundaries). This element is also used for (non-quality flag) data fields that require a legend entry such as surface type or suspended matter type. The legend entry provides bit-level quality flag definitions. The values in the legend are represented as integers while the field (and HDF5 data array) stores them in binary form as unsigned chars. The “Datum Offset” indicates the beginning index within the byte for each quality flag.

The formats for the NPP/NPOESS Data Product HDF5 files are documented in the following volumes, accompanying each data product description:

- CDFCB-X Volume II, D34862-02 – RDR Formats, D34862-02
- CDFCB-X Volume III, D34862-03 – SDR/TDR Formats, D34862-03
- CDFCB-X Volume IV, D34862-04 – EDR/IPs/ARP Formats, D34862-04

3.5.3 NPOESS HDF5 Data Storage Paradigm

The NPOESS HDF5 file does not store datasets directly in each product’s granule and aggregation dataset. Instead, HDF5 references are used. Each aggregation array stores one or more HDF5 object IDs (or “Reference Objects”) that must be used to dereference to the entire dataset array stored in the All_Data group. The granule arrays are similar to the aggregation array, but store references to dataset regions. A reference to a dataset region (or “Reference Region”) is shown in Figure 3.5.3-1, VIIRS CBH EDR Granule Properties Example, (VIIRS-CBH-EDR_Gran_0). (Note: Although HDF View 2.4 lists the Data Type in this figure to be “Object reference”, it is more specifically a “Dataset Region reference”. The Dataset Region reference contains the object reference plus an offset to the referenced selection). This set of reference regions and reference objects are intended to provide a road map to the data contained in the

All_Data group, it does not exclude direct access to the data via All_Data.

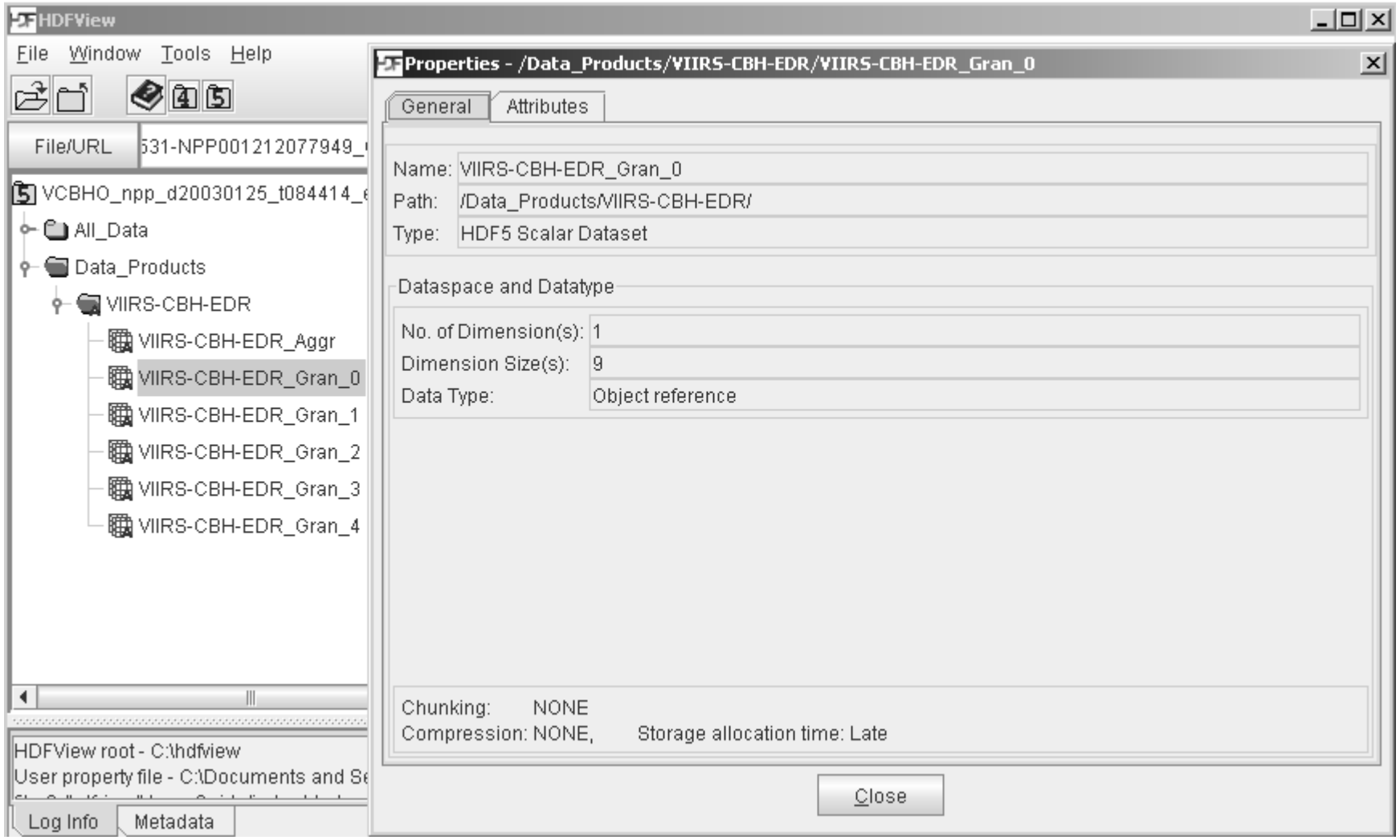


Figure 3.5.3-1, VIIRS CBH EDR Granule Properties Example

For the VIIRS CBH EDR, the granule is an array of nine elements that stores the object IDs that dereference to each field in the granule:

- CloudBaseHeightLayer (index 0)
- CloudBaseHeightTotal (index 1)
- QF1_VIIRSCBHLAYEREDR (index 2)
- QF2_VIIRSCBHLAYEREDR (index 3)
- QF3_VIIRSCBHTOTALEDR (index 4)
- QF4_VIIRSCBHTOTALEDR (index 5)
- QF5_VIIRSCBHTOTALEDR (index 6)
- QF5_VIIRSCBHTOTALEDR (index 7)
- CloudBaseHeightFactors (index 8)

Figure 3.5.3-2, VIIRS CBH EDR Granule Contents – Object IDs Example, provides a screen shot of HDF View's ASCII representation of the object IDs stored in the granule. The object ID for each array entry is shown along with the start/end index for each reference. For example, the object ID 2928 is the ID for CloudBaseHeightLayer. This is stored in the first array entry for Gran_0 (the first granule) and dereferences to CloudBaseHeightLayer's array indices (0,0,0) – (95,507,3) stored in the All_Data group.

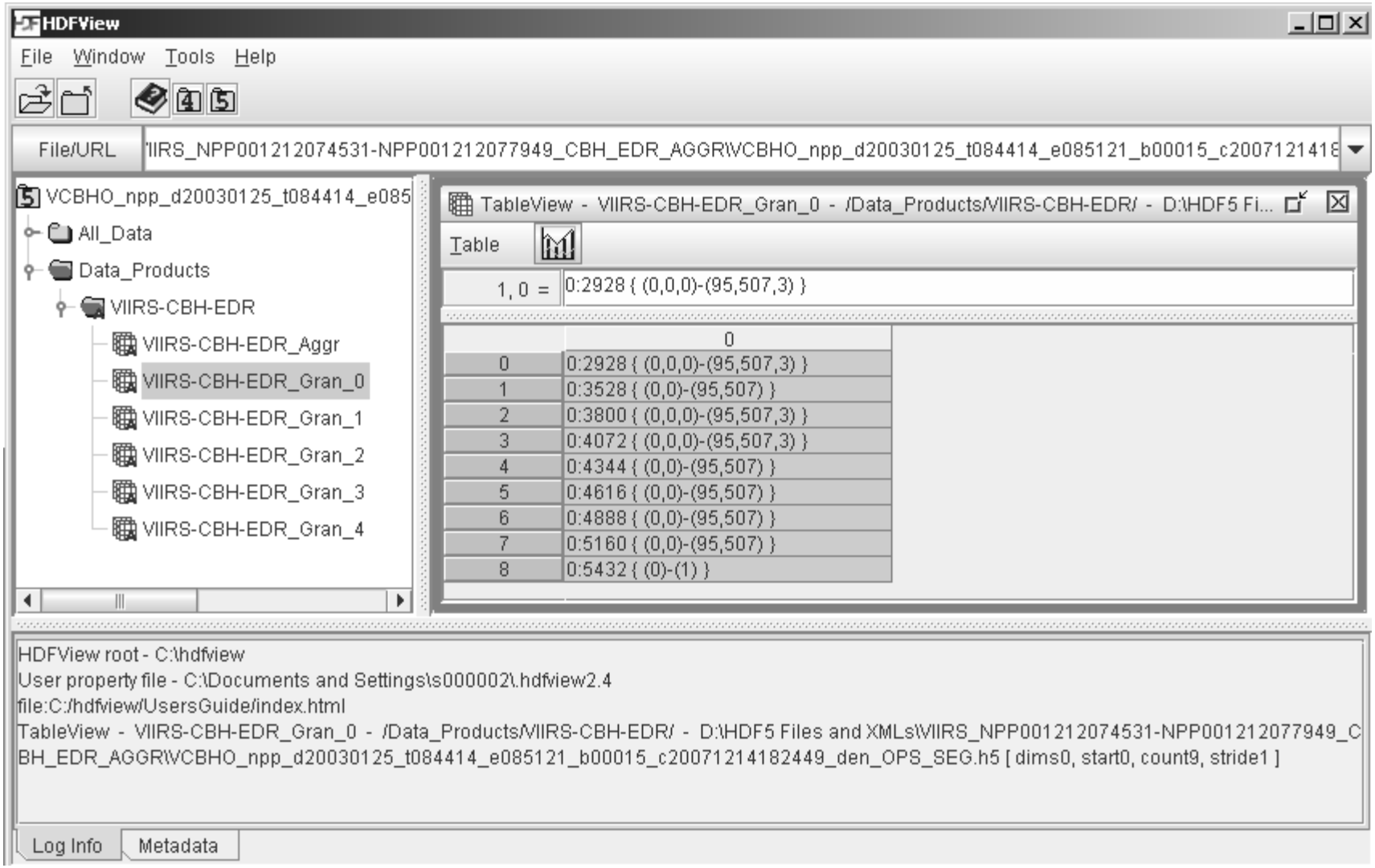


Figure 3.5.3-2, VIIRS CBH EDR Granule Contents – Object IDs Example

The All_Data group stores the entire aggregation of data for each product in a separate array for each field. To get the data for a particular granule for any given field, the object ID must be dereferenced in order to locate and access that granule's data from the All_Data group. The All_Data group directly stores the datasets for each product, but contains no metadata in the HDF5 Attributes. A user may access the data directly through the All_Data group, but would have to read the metadata from the root, product, aggregation, and granule objects and match them manually to the granule they have chosen from All_Data.

Unlike granules, aggregations allow access to the entire dataset particular to a product that is stored in the HDF5 file for any given field. Dereferencing aggregations allows users to quickly read all of the data for a given field in a file. However, the aggregation object under the data products group is an "object reference" or "reference object". Similar to a granule, the aggregation in this example is an array of size nine and stores nine object IDs that dereference to the beginning of the All_Data group and include the entire set of data (entire dataset array) for that object ID's corresponding field.

HDF View displays the contents of the All_Data group's dataset fields in alphabetical order. This order may not match the order of the object IDs for aggregations and granules. Instead, the object IDs in both the granule and aggregation datasets follow the order listed in the NPOESS Data Product Profiles.

3.5.3 Data Product Style Guide

The Data Product Style Guide provides a set of general guidelines for the format and content of SDRs, TDRs, IPs, ARPs, and EDRs. Since the HDF5 standard is so broad, tailoring the structure for related entities provides a convenience for data producers and data users.

There are three general styles:

- Swath
- Grid
- Sparse Array

For the majority of the NPP/NPOESS Data Products, the Swath style is used. The Grid and Sparse Array styles are used for IPs. A comprehensive listing of the NPP/NPOESS Data Products and their relevant styles are in Appendix F, NPP/NPOESS Data Product Style Guide Matrix.

3.5.3.1 NPOESS Swath Style

All non-gridded SDR and most EDRs are swath data products; the swath is a simple 2-, 3-, or n-dimensional array. All swath product outputs are in row-major format, i.e. the first dimension's index varies most slowly and the last dimension's index varies most quickly. The array (i, j) loops through all j's then increments i and loops through all j's again. The first dimension of the swath data represents the AlongTrack direction (row, j). This is the dimension which varies most slowly in looping through an array. The second dimension of the swath represents the CrossTrack direction (i, column) which changes more quickly. Third and higher array dimensions represent information such as bands or layers as dictated by the product. For example, the CrIS and ATMS SDRs contain higher dimensional product types, but are still swath. Also, an atmospheric profile is a case of swath with an altitudinal layer dimension with layers potentially occurring in the 2nd dimension. Figure 3.5.3.1-1 NPOESS Swath Style Example, provides a graphical depiction of the swath style.

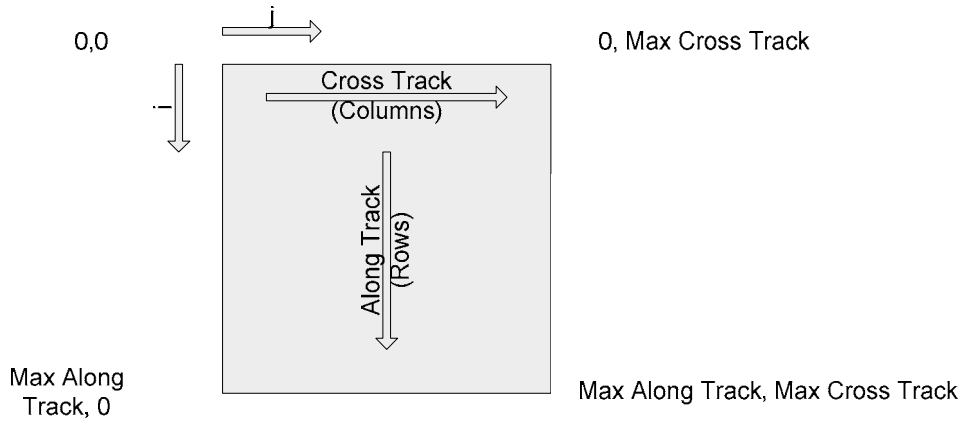


Figure 3.5.3.1-1, NPOESS Swath Style Example

3.5.3.1.1 NPOESS Swath Style General Product Profile

The general Product Profile for a swath normally contains three sections: Data, Quality Flags, and Scale Factors (as applicable). Scale Factors are used as needed and may not appear for every data product entry; see Appendix H, NPP and Applicable NPOESS Data Product Scaling for a table of the NPP/NPOESS Data Products that are scaled. Within each section, field names (dataset arrays) are specified along with their rank and type, the names of each dimension (i.e., AlongTrack, CrossTrack), and their relative expected maximum and minimum sizes (unless dynamic).

In terms of the HDF5 file hierarchy, the swath looks similar to a directory tree with a node for each section entry as can be seen in Figure 3.5.4.1.1-1, NPOESS Swath Style General Profile Example.

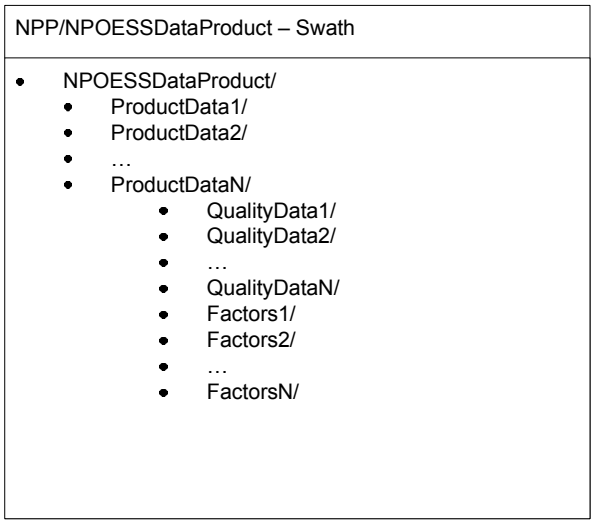


Figure 3.5.3.1.1-1, NPOESS Swath Style General Profile Example

Within each directory would be entries for one or more fields and one or more datum elements within each field.

3.5.3.2 NPOESS Grid Style

The NPOESS Grid style consists of tiles or aggregations of tiles. The dimensions of each tile are static and represent 5° Longitude (at the equator) x 2.5° Latitude. The NPOESS grid style is modeled after the Moderate Resolution Imaging Spectroradiometer (MODIS) land tiling scheme in which Cartesian Space is broken up

into 72 x 72 tiles for a total of 5184 tiles. All gridded data product outputs are in row-major format, i.e. the first dimension's index varies most slowly and the last dimension's index varies most quickly. The array (i, j) loops through all j's then increments i and loops through all j's again. The first dimension of the gridded data represents the row (i); the second dimension is the column (j). The third dimension of gridded data represents other information such as bands or layers as dictated by the product. Figure 3.5.4.2-1 NPOESS Grid Style, provides a graphical depiction of the grid style.

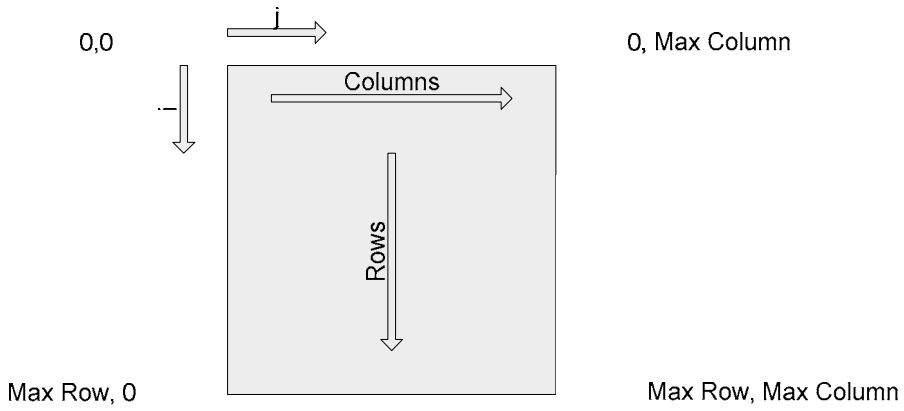


Figure 3.5.3.2-1, NPOESS Grid Style

3.5.3.2.1 NPOESS Grid Style General Product Profile

The general profile for a grid contains three major sections: Data, Quality Flags, and Scale Factors. Each section can have multiple entries, but there will always be as many scale factors as data elements. Within each section, field names (arrays) are specified along with their rank and type, the names of each dimension, and their relative expected maximum and minimum sizes. Attribute names are specified along with their location.

In terms of the HDF5 file hierarchy, the grid looks similar to a directory tree with a node for each section entry as can be seen in Figure 3.5.4.2.1-1, NPOESS Grid Style General Profile Example.

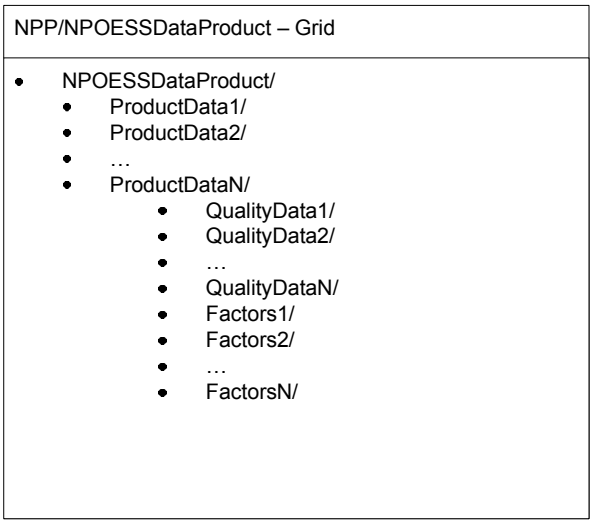


Figure 3.5.3.2.1-1, NPOESS Grid Style General Profile Example

Within each directory would be entries for one or more fields and one or more data elements within each field.

3.5.3.3 NPOESS Sparse Array Style

The NPOESS Sparse Array data style consists of tiles or aggregations of tiles. The first dimension of the sparse data represents the series grid points. The second dimension represents other information such as bands or layers as dictated by the product. A separate array contains an index into the series of grid points representing the i and j locations. This array is the same size as the first dimension of the sparse data array.

3.5.3.3.1 NPOESS Sparse Array General Product Profile

The general product profile for a Sparse Array contains four major sections: Data, Index, Quality Flags, and Scale Factors. Each section can have multiple entries, but there will always be as many scale factors and indices as data elements. Within each section, field names (arrays) are specified along with their rank and type, the names of each dimension, and their relative expected maximum and minimum sizes (unless dynamic). Attribute names are specified along with their location.

In terms of the HDF5 file hierarchy, the sparse array looks similar to a directory tree with a node for each section entry as can be seen in Figure 3.5.3.3.1-1, NPOESS Sparse

Array Style General Profile Example.

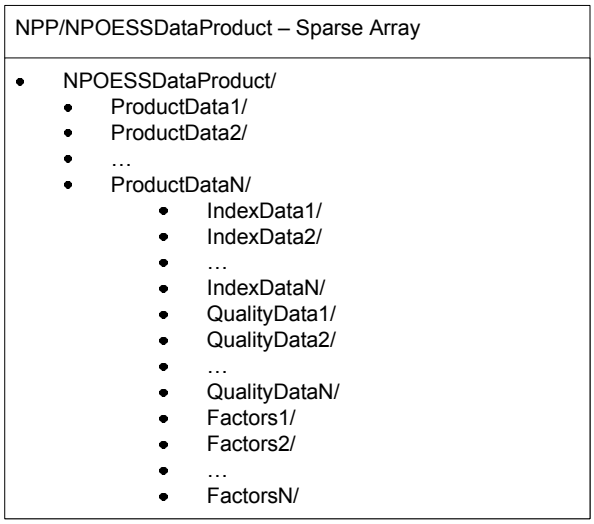


Figure 3.5.3.3.1-1, NPOESS Sparse Array Style General Profile Example

Within each directory would be entries for one or more fields and one or more data elements within each field.

3.5.4 Quality Flags

Quality Flags are delivered with most NPP/NPOESS Data Products and are specific to each granule in a data product. NPOESS uses quality flags to:

- Trigger alternate processing paths within EDR generation
- Trigger the use of alternate input data sources during graceful degradation of the EDRs
- Identify occurrences of relaxed EDR performance as defined in Appendix D of the System Specification
- Identify occurrences of performance exclusions or degradations as defined in Appendix D of the System Specification
- Identify conditions under which Data Quality Monitoring (DQM) Messages should be generated
- Facilitate the monitoring of off-line NPP/NPOESS Data Products and systems by DQM

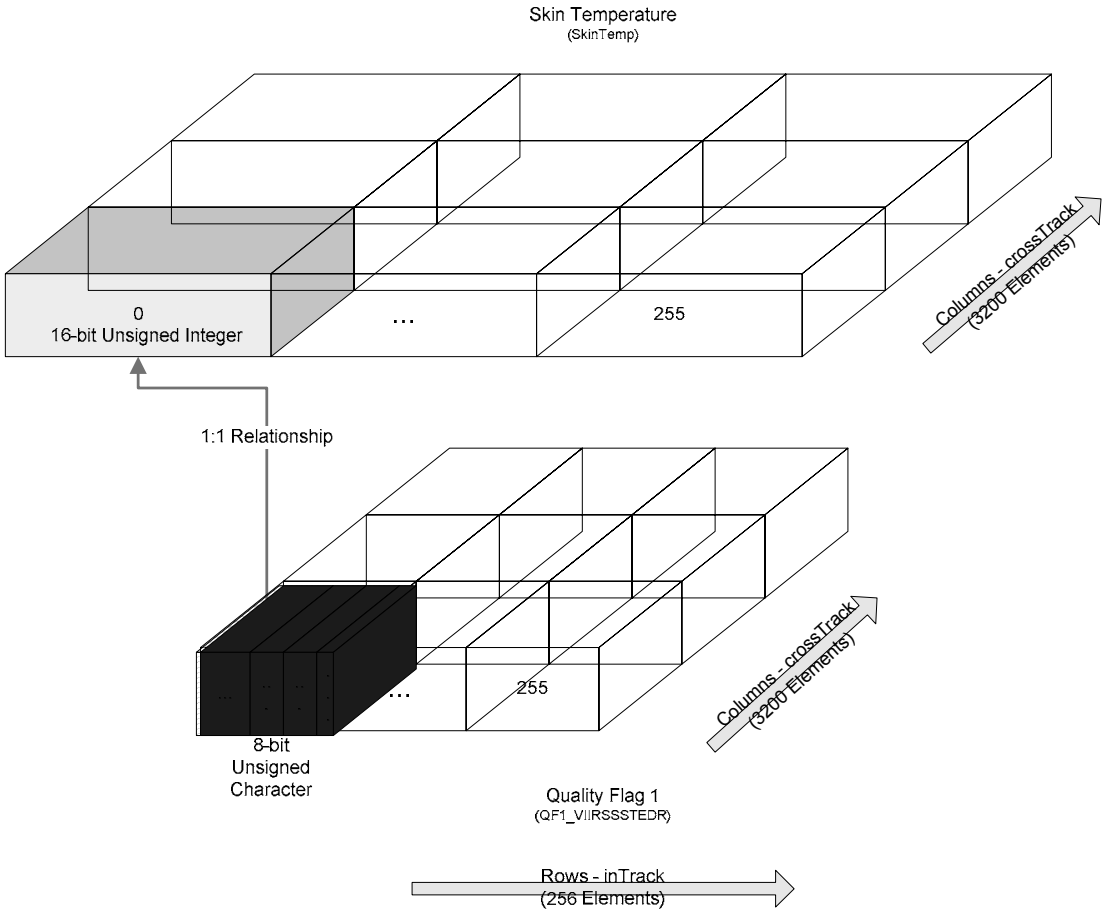
The overall concept behind the quality flags is to provide for consistently stored, high density quality information about the delivered data. This consistency and storage paradigm is intended to simplify quality flag usability while maintaining storage efficiency. Quality flags are comprised of one or more consecutive bits, generally, in a single byte. In most instances, the quality flags are provided as 8-bit unsigned characters, however, there are instances (such as scan-level quality flags) where a larger data type is required. The boundary of the data type used for the quality flags is observed and maintained; for example, for quality flags stored in an 8-bit unsigned character, each byte may contain multiple bit-level flags and are arranged in order to not cross byte-boundaries. Due to this fact, there are instances where some quality flag units contain bits that are reserved or meaningless.

Quality flag arrays are structured in the same manner as the data product that they represent. In other words, the size of the arrays are equal to or less than the size of the data to which the quality information applies (the dimensions correspond to the data

product arrays). The number of quality flag arrays and their size is dependent on the quality flag definitions and are specific to each product. For specific definitions of quality flags see the appropriate NPOESS Data Product data format definition (CDFCB-X Volumes II, III, and IV).

Note that the quality flags are ordered such that the first bit (left-most) of every quality flag data type is the least significant bit (LSB).

Figure 3.5.5-1, 2-Dimensional Quality Flag Example - SST, provides an example demonstrating the parallel nature of the pixel level quality flags with their associated datasets. This example is a continuation of the VIIRS Sea Surface Temperature example provided above.



Figure, 3.5.4-1, 2-Dimensional Quality Flag Example – SST

3.5.5 Fill Values

Fill values convey information on a pixel/cell level about missing data. Most fill decisions are done at a pixel/cell level and may result in a 100% granule fill. In a few cases, decisions are made at the granule level. For scan-level information such as spacecraft attitude, it's important to examine the related parameters position and velocity for fill values before interpreting the attitude values as meaningful physical quantities since fill values may in extremely rare situations look like a non-nominal maneuver state. The possible fill values are shown in Table 3.5.6-1, Pixel Level Fill Values.

Table 3.5.5-1, Pixel Level Fill Values

Pixel Level	Definition	Values	
Algorithm Exclusions	The pixel/cell was not computed because it is not applicable to this situation (i.e., NA is the correct answer)	NA_FLOAT64_FILL	-999.9
		NA_INT64_FILL	-999
		NA_FLOAT32_FILL	-999.9
		NA_INT32_FILL	-999
		NA_UINT32_FILL	2^32-1
		NA_UINT16_FILL	65535
		NA_INT16_FILL	-999
		NA_UINT8_FILL	255
		NA_INT8_FILL	127
Missing at Time of Processing	C3S provided a fill value, the S/C did not provide the value, or AP missing	MISS_FLOAT64_FILL	-999.8
		MISS_INT64_FILL	-998
		MISS_FLOAT32_FILL	-999.8
		MISS_INT32_FILL	-998
		MISS_UINT32_FILL	2^32-2
		MISS_UINT16_FILL	65534
		MISS_INT16_FILL	-998
		MISS_UINT8_FILL	254
		MISS_INT8_FILL	126
Onboard Pixel Trim	The VIIRS pixel was trimmed on the S/C (e.g., overlap omitted)	ONBOARD_PT_FLOAT64_FILL	-999.7
		ONBOARD_PT_INT64_FILL	-997
		ONBOARD_PT_FLOAT32_FILL	-999.7
		ONBOARD_PT_INT32_FILL	-997
		ONBOARD_PT_UINT32_FILL	2^32-3

Pixel Level	Definition	Values	
		ONBOARD_PT_UINT16_FILL	65533
		ONBOARD_PT_INT16_FILL	-997
		ONBOARD_PT_UINT8_FILL	253
		ONBOARD_PT_INT8_FILL	125
On-ground Pixel Trim	The VIIRS pixel was trimmed during processing (i.e., we intentionally chose not to process the pixel)	ONGROUND_PT_FLOAT64_FILL	-999.6
		ONGROUND_PT_INT64_FILL	-996
		ONGROUND_PT_FLOAT32_FILL	-999.6
		ONGROUND_PT_INT32_FILL	-996
		ONBOARD_PT_UINT32_FILL	2^32-4
		ONGROUND_PT_UINT16_FILL	65532
		ONGROUND_PT_INT16_FILL	-996
		ONGROUND_PT_UINT8_FILL	252
		ONGROUND_PT_INT8_FILL	124
Cannot Calculate	The algorithm could not compute the pixel/cell because of a software problem (e.g., could not converge to a solution)	ERR_FLOAT64_FILL	-999.5
		ERR_INT64_FILL	-995
		ERR_FLOAT32_FILL	-999.5
		ERR_INT32_FILL	-995
		ERR_UINT32_FILL	2^32-5
		ERR_UINT16_FILL	65531
		ERR_INT16_FILL	-995
		ERR_UINT8_FILL	251
		ERR_INT8_FILL	123
Ellipsoid Intersection Failed	The observation does not intersect the earth's surface This is an indication of a calibration maneuver.	ELINT_FLOAT64_FILL	-999.4
		ELINT_INT64_FILL	-994
		ELINT_FLOAT32_FILL	-999.4
		ELINT_INT32_FILL	-994
		ELINT_UINT32_FILL	2^32-6
		ELINT_UINT16_FILL	65530
		ELINT_INT16_FILL	-994
		ELINT_UINT8_FILL	250
		ELINT_INT8_FILL	122
Value Does Not Exist	The data was not available - it is not missing, nor is any attempt made to	VDNE_FLOAT64_FILL	-999.3
		VDNE_INT64_FILL	-993
		VDNE_FLOAT32_FILL	-999.3

Pixel Level	Definition	Values	
	calculate the data	VDNE_INT32_FILL	-993
		VDNE_UINT32_FILL	2^32-7
		VDNE_UINT16_FILL	65529
		VDNE_INT16_FILL	-993
		VDNE_UINT8_FILL	249
		VDNE_INT8_FILL	121
Scaling Out Of Bounds	The scaled data was out of bounds of the data type	SOUB_FLOAT64_FILL	-999.2
		SOUB_INT64_FILL	-992
		SOUB_FLOAT32_FILL	-999.2
		SOUB_INT32_FILL	-992
		SOUB_UINT32_FILL	2^32-8
		SOUB_UINT16_FILL	65528
		SOUB_INT16_FILL	-992
		SOUB_UINT8_FILL	248
		SOUB_INT8_FILL	120

3.5.5.1 Missing Granules

In the case of missing granules, the following will be delivered for all packaging scenarios:

1. For EDR/SDR/TDR/IPs – The missing granule's arrays will be delivered containing a fill value of Missing with default metadata. See the CDFCB-X, Volume V, D34862-05 for metadata defaults.
2. For Active Fires ARP and variable sized NPOESS CrIS IP and CrIMSS EDRs – The missing granule's variable sized arrays will be represented as empty datasets.
3. For RDRs – The entire missing granule will be represented as an empty dataset.

There are also a few special cases where all fill granules may be produced:

1. For granules containing both day and night, pixel level fill will be created up to the entire granule – delivery of these granules follows the same caveats listed for missing granules

2. Granules created with 100% night observations for those VIIRS EDRs that only retrieve for daytime conditions will contain all fill – delivery of these granules follows the same delivery rules listed for missing granules contained in an aggregation. For single granules, they are delivered with the appropriate metadata and the granule will contain all fill data.
3. For Active Fire ARPs, if there are no fires identified in a granule (i.e. the variable arrays are of size 0), the empty arrays will be represented as empty datasets.
4. For all cases, refer to the N_Granule_Status metadata element, included in the delivered HDF5 Data Product file, for an indication of the granule status, be it missing at time of delivery or not existing for a particular reason.

3.5.6 Geolocation Packaging

There are two options for receiving Geolocation data for NPP/NPOESS Data Products[3]:

- Packaging Off – For all data products with the same geolocation data, deliver only one geolocation HDF5 file and reference the geolocation HDF5 file from each corresponding data product HDF5 file per request. Each data product requested is also delivered in a separate HDF5 file
- Packaging On – Package all data products sharing the same geolocation data in a single HDF5 file and include their corresponding geolocation data in the HDF5 file with the data products per request.

To make these options more clear, here is an example: a user makes a request from Data Delivery for six data products.

- The request is for two SDRs and four EDRs
  - SDR1, SDR2, EDR1, EDR2, EDR3, and EDR4
- Two of the data products (SDR1 and EDR1) apply to the same geolocation file (GEO1)
- The other four data products (SDR2, EDR2, EDR3, and EDR4) apply to

the same geolocation file (GEO2), which is different from that of the first two (SDR1 and EDR1)

Figure 3.5.6-1, Data Product Request Example, shows the delivered results of this request graphically.

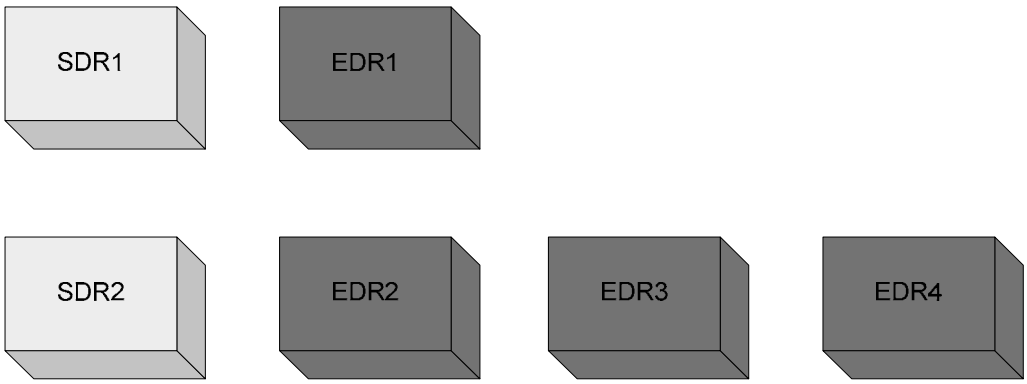


Figure 3.5.6-1, Data Product Request Example

Figure 3.5.6-2, Packaging Off Example, depicts how the six data products would be delivered using the option of Packaging Off. The two data products (SDR1 and EDR1) would be delivered as separate files with a metadata attribute (N_GEO_Ref) that indicates which geolocation file contains the relevant geolocation information. The user would receive a total of three files, two data product HDF5 files and one geolocation HDF5 file. The same scenario holds for the other four data products; a total of five HDF5 files would be delivered – four data product HDF5 files and one HDF5 geolocation file.

[3] RDR data products are always delivered with Packaging On – the Spacecraft Attitude and Ephemeris Data, Spacecraft Diary is always packaged together with the Science and Diagnostic data.

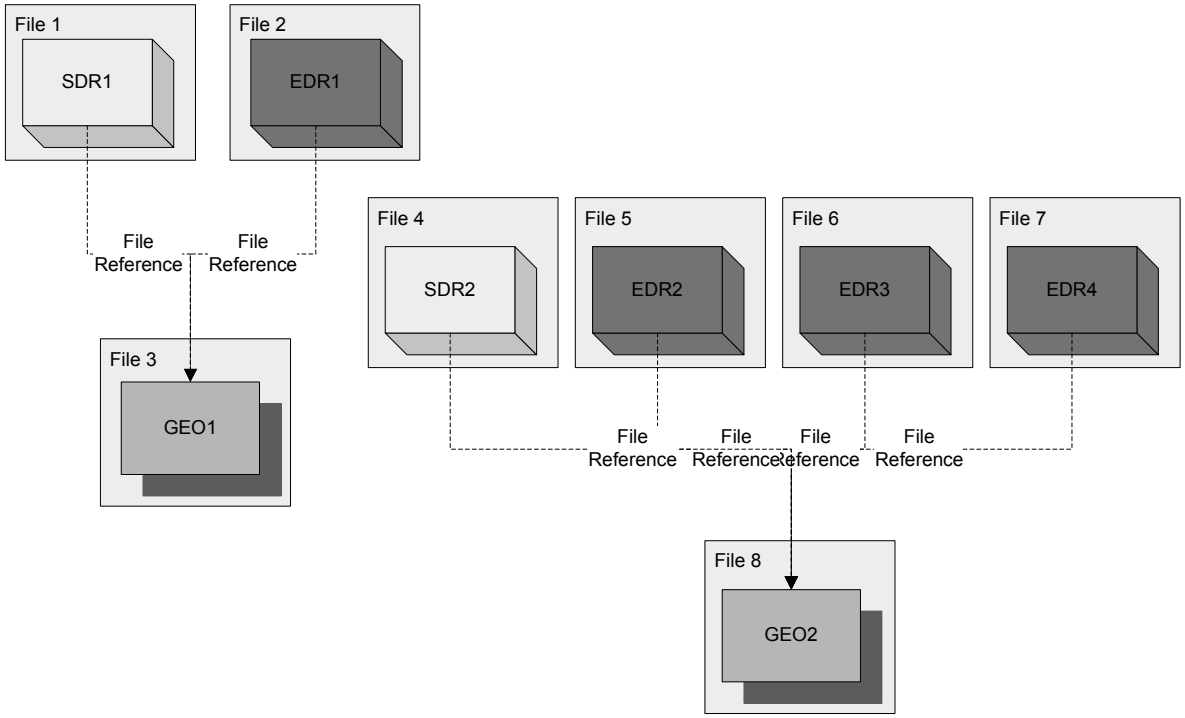


Figure 3.5.6-2, Packaging Off Example

Figure 3.5.6-3, Packaging On Example, depicts how the six data products would be delivered using the option of Packaging On. The two data products (SDR1 and EDR1) and their relevant geolocation information would all be delivered in a single HDF5 file. The user would then receive one HDF5 file for the two data products with common geolocation information and one HDF5 file for the other four data products with their common geolocation information.

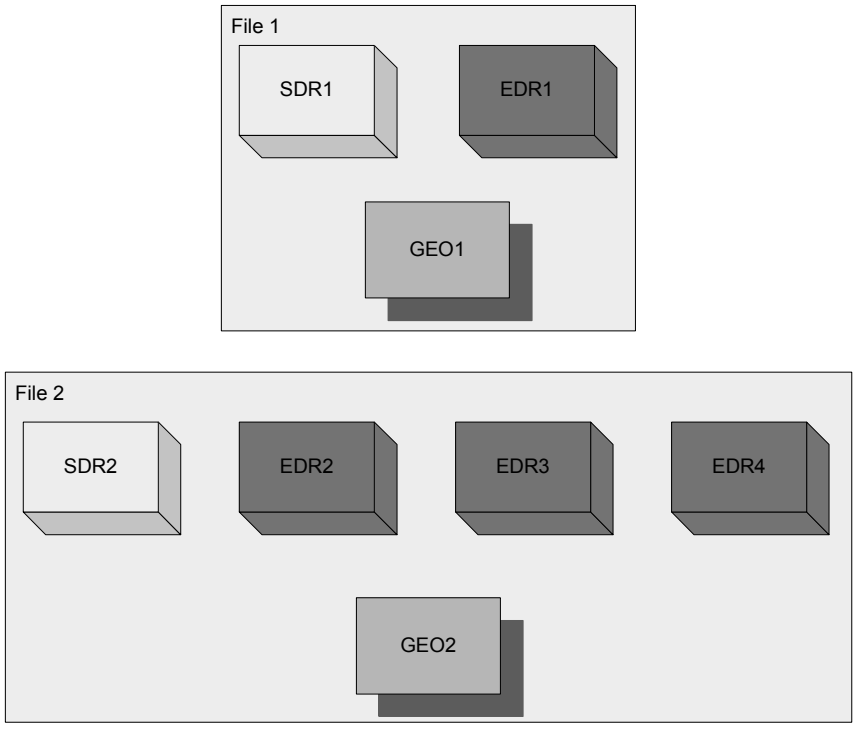


Figure 3.5.6-3, Packaging On Example

3.5.6.1 Generalized Geolocation HDF5 Model

Due to the packaging options available for delivery of NPP/NPOESS Data Products, there are two Generalized UML Diagrams associated with Geolocation files. Figure 3.5.6.1-1, Generalized Geolocation HDF5 Diagram – Packaging Off, provides the UML diagram for a stand alone Geolocation HDF5 file. Figure 3.5.6.1-2, Generalized Geolocation HDF5 Diagram – Packaging On, provides the UML diagram for the incorporated Geolocation information included in an NPP/NPOESS Data Product HDF5 file.

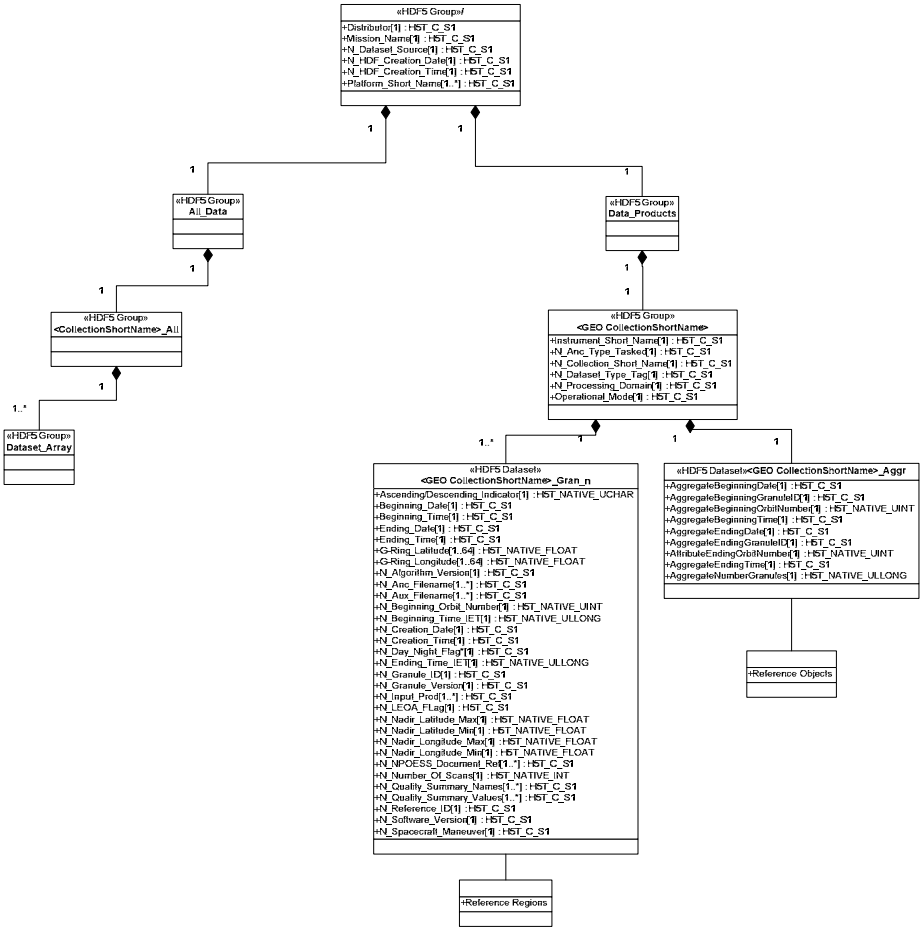


Figure 3.5.6.1-1, Generalized Geolocation HDF5 Diagram – Packaging Off

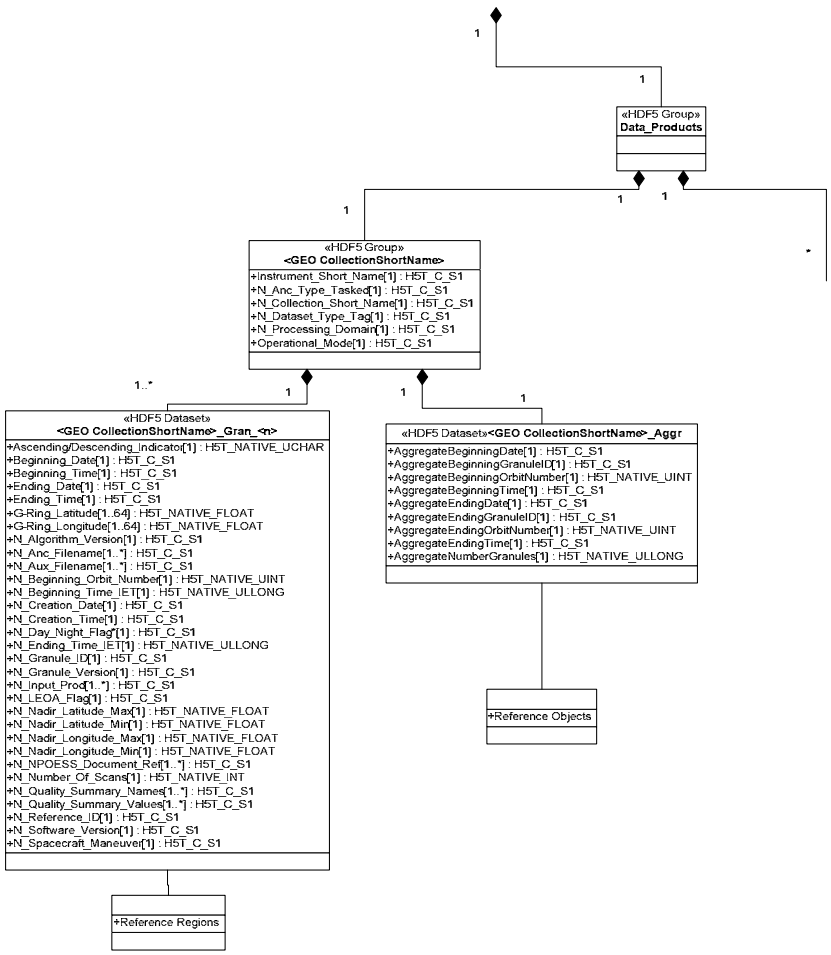


Figure 3.5.6.1-2, Generalized Geolocation HDF5 Diagram – Packaging On

3.5.7 Repair Granules

Repair granules of NPP/NPOESS Data Products originate from two sources:

- Automatic repair due to updated RDR granules
- Manual repair/creation due to the IDP operator (updated configuration files, ancillary data, etc.)

This section describes the automatic repair of NPP/NPOESS Data Products based on

the receipt of late arriving or updated application packets. Manual repairs are initiated by the IDP Operator and can occur for a variety of procedural reasons. Regardless of the reason for a repair granule, the version of the granule is updated accordingly; see the CDFCB-X Volume V, D34862-05, for more information on the granule versioning scheme.

3.5.7.1 RDR Granule Processing

RDR Granules are the beginning of all NPP/NPOESS Data Product processing. Under normal conditions, Application Packets (APs) are broadcast from the Spacecraft to the Command, Control, and Communications Segment (C3S), delivered to the IDP for collection into granules, and tasked for processing. For various reasons, including sensor and spacecraft mode changes, end of contacts, and simple loss of data, NPOESS may not receive all or any of the data for an RDR granule. If this is the case, then a non-nominal condition occurs and the system has to take action to mitigate this loss in order to still release all available data. In order to handle these non-nominal conditions, IDPS has configurable timeouts and thresholds to ensure that all data is appropriately tasked and delivered to the community.

For processing to begin on an RDR granule, a percentage of the expected Application Packets for that granule must be received and collected by IDPS. The required percentage, or threshold, of APs is configured on a per product basis at the IDP and is set based on the performance and latency requirements for NPOESS. The percentages are expressed as a percentage of the total number of expected APs for each specific RDR granule type.

RDR granules have two paths in the data flow, processing and delivery. RDR granules that meet their allocated thresholds or are 100% complete, are released for processing by the system (in order to create subsequent NPP/NPOESS Data Products). As long as an RDR granule contains at least one valid AP, it is always released for delivery. Figure 3.5.7.1-1, RDR Granule Data Flow, provides a graphical depiction of the data flow for APs and the decisions used to determine whether or not the system should be tasked or re-tasked to perform processing on any given RDR granule. The rest of this section walks through the various strategies that are implemented for RDR Granule data flow in

IDPS.

Each of the conditions described below provide the versioning that is associated with the resulting RDR granules. For more information on the various versioning for the NPP/NPOESS Data Products, see the CDFCB-X Volume V, D34862-05, for the definition and range of values for the N_Granule_Version metadata attribute.

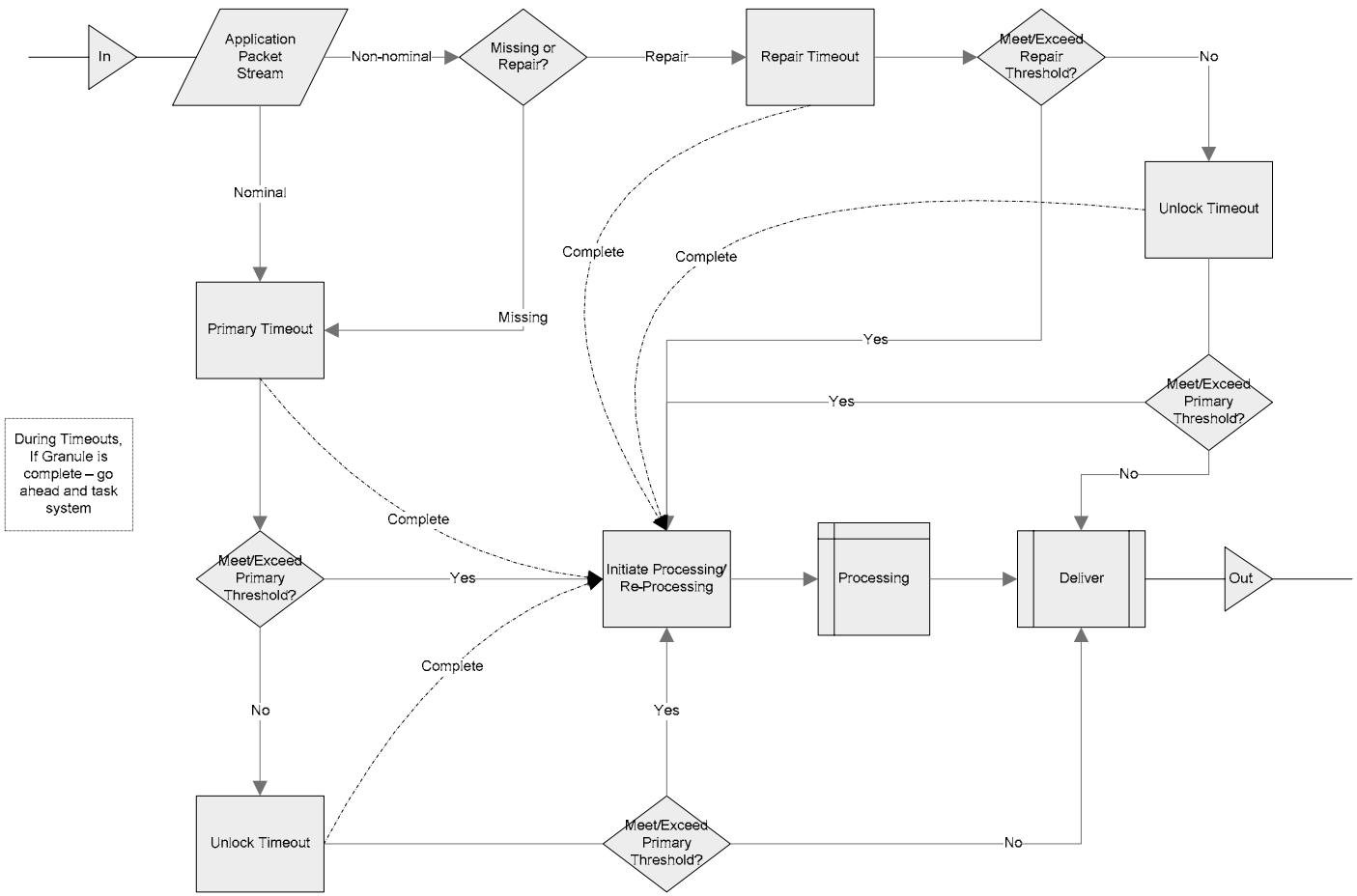


Figure 3.5.7.1-1, RDR Granule Data Flow Diagram

3.5.7.2 Timeouts and Thresholds

The release of incomplete RDR granules for processing and/or delivery is accomplished with two pairs of timeouts and thresholds. Timeouts are used to trigger an analysis of RDR granules for completeness and are based on when an RDR granule was initially created (either as a new granule in the system or as an update to an existing granule). There are 3 timeouts in the data flow for RDR granules:

- Primary Timeout – timeout for holding back an RDR granule from processing to allow for completion of the granule, when granule has not reached 100% completion
- Repair Timeout – timeout for holding back a repaired RDR granule from processing to allow for completion of the granule, when granule has not reached 100% completion
- Unlock Timeout – timeout for holding back a newly created or repaired RDR granule from processing to allow for completion of the granule, when granule has not reached 100% completion
    - Used once the Primary Timeout or Repair Timeout has expired in order to provide a second chance for missing/late APs to arrive
    - A relatively long duration to provide the maximum amount of time to get data

Thresholds are a minimum value that constitute a successful percent complete for an RDR granule in order to release it for processing. Granule completion is tested against the threshold values when one of the above timeouts has expired. There are two thresholds in the data flow for RDR granules:

- Primary Threshold – threshold used for the nominal flow (including for missing/late RDR granules), based on a reasonable amount of time to receive all the data for a given granule in a nominal circumstance; compared with data once the Primary or Unlock (following Primary) Timeouts have occurred.
- Repair Threshold – threshold used for the non-nominal flow (specifically for

repaired granules), generally set to a higher value than the Primary Threshold; compared with data once the Repair or Unlock (following Repair) Timeout have occurred.

3.5.7.3 Nominal Flow

Under nominal conditions, IDPS receives APs in such a manner as to facilitate the creation of complete RDR granules. These granules are stored and the system is tasked to process these granules as appropriate while the system continues the collecting APs. When the first AP of an RDR Granule is received, the Primary Timeout is begun for that granule. If at any time during that timeout, the RDR granule is 100% complete, the granule is released for processing and delivery. Once the timeout expires, the RDR granule is compared against the Primary Threshold for completeness. If the percent complete of the RDR granule meets or exceeds the allocated threshold, then the granule is released for processing and delivery. In the event that the RDR granule is not complete, the Unlock Timeout is begun. Just as in the case of the Primary Timeout, if at any point during the Unlock Timeout the RDR granule is made 100% complete, the granule is released for processing and delivery. Once the timeout expires, the RDR granule is again tested against the Primary Threshold to see if the granule is complete to begin processing and delivery. If the granule does not meet or exceed the Primary Threshold at this point, the granule is released for delivery, but not for processing. Figure 3.5.8.3-1, Nominal RDR Granule Data Flow Diagram, provides a graphical depiction of the data flow for the RDR granules under nominal conditions. Being the first instance of a given RDR granule, the version of these RDR granules is A1.

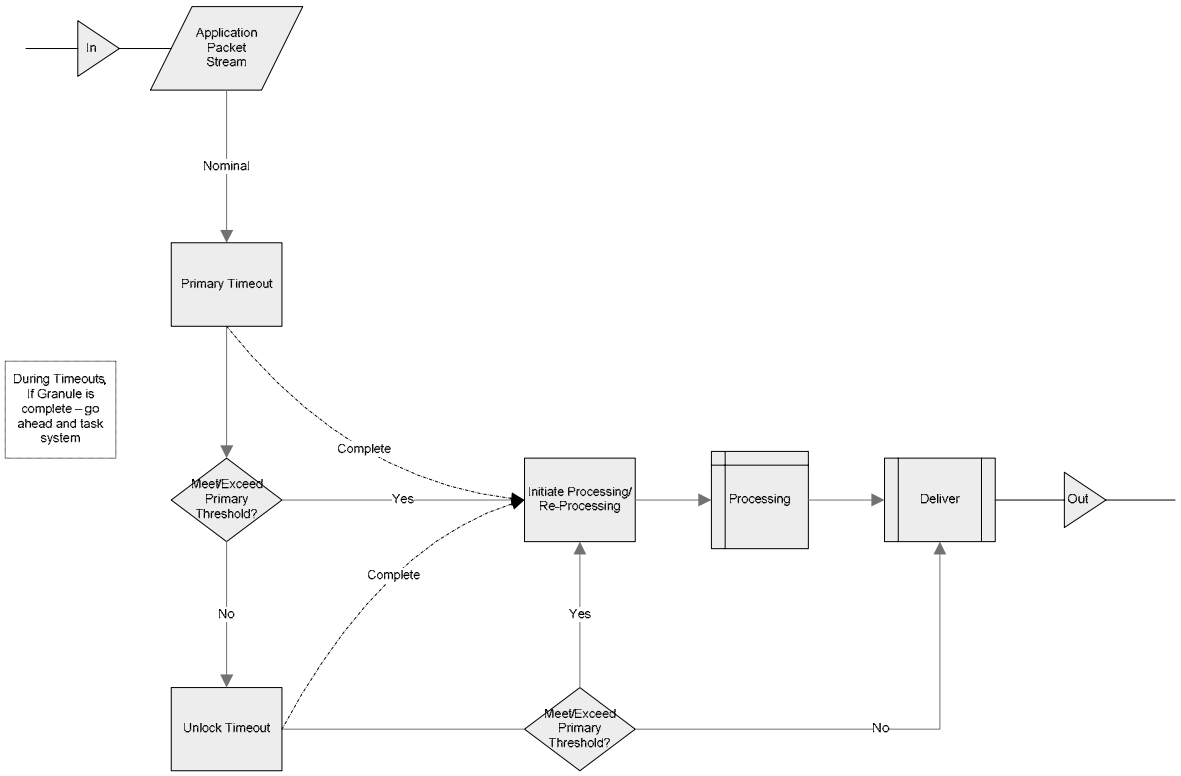


Figure 3.5.7.3-1, Nominal RDR Granule Data Flow Diagram

3.5.7.4 Non-Nominal Flow

Non-nominal data flow is described by two separate cases: Missing/Late and Repair RDR Granules. Missing/Late RDR Granules are circumstances where an entire RDR granule is missing. A missing RDR granule indicates that none of the APs that are included in a specific granule (covering a particular temporal range) were delivered to IDPS for one reason or another. Repair RDR granules are circumstances where at least one of the APs that are included in a specific granule was not delivered to IDPS. The following sections describe how these cases are handled.

3.5.7.4.1 Missing/Late RDR Granules

Missing/Late RDR Granules utilize the same Primary Timeout, Primary Threshold, Unlock Timeout, Unlock Threshold values and data flow as the nominal case for RDR Granules. Figure 3.5.7.4.1-1, Non-Nominal Missing/Late RDR Granule Data Flow Diagram, provides a graphical depiction of the data flow for Missing/Late RDR granules.

Since these RDR granules are the first instances of any given granule, their versioning is the same as that of the Nominal RDR Granules, A1.

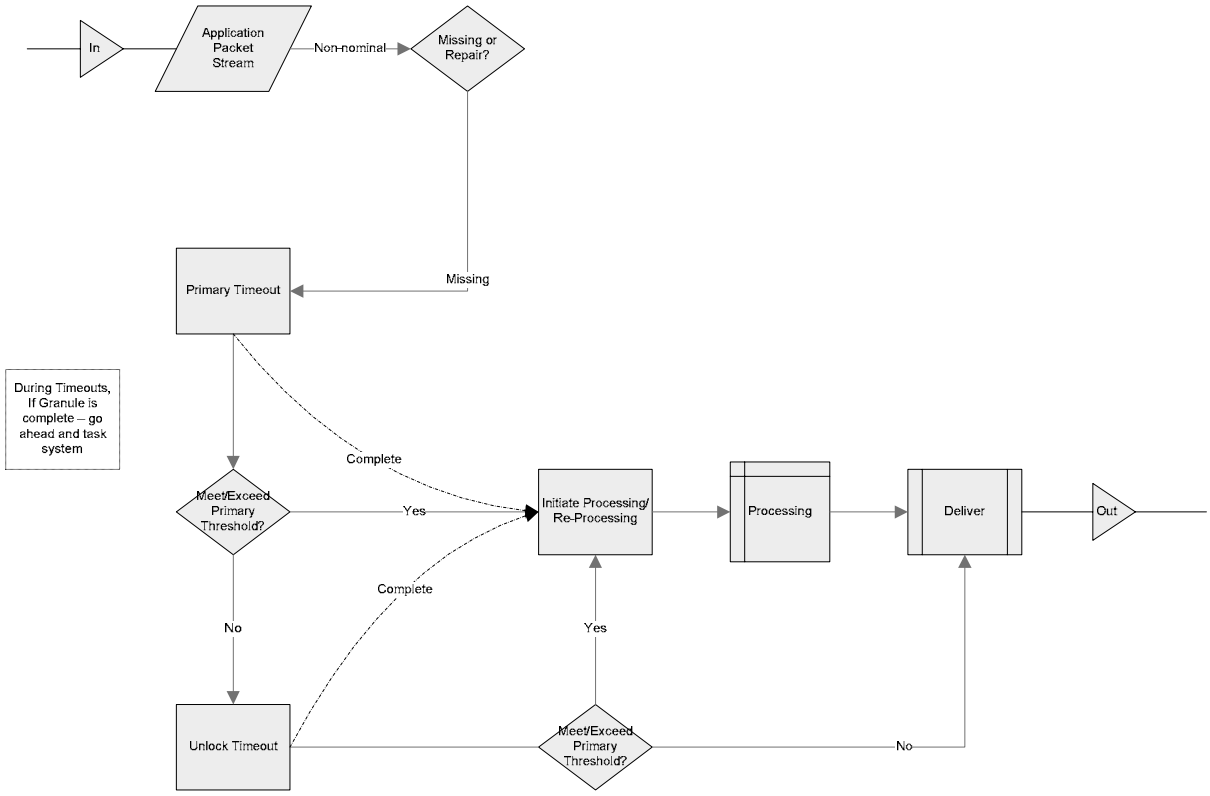


Figure 3.5.7.4.1-1, Non-Nominal Missing/Late RDR Granule Data Flow Diagram

3.5.7.4.2 Repaired RDR Granules

Repaired RDR Granules follow the same data flow paradigm as the Missing/Late RDR Granules and the Nominal RDR Granules, but there are some differences. A Repaired RDR Granule is indicative of an RDR granule that has already gone through data flow described in the Nominal RDR Granule case, but was not 100% complete. These granules may or may not have met or exceeded their respective Primary Thresholds and hence, may or may not have had any processing performed on them, but they would have been released for delivery. Upon a retransmit of APs from C3S to IDPS, IDPS identifies whether the APs being received are associated with an already existing RDR granule, or if a new RDR granule needs to be produced. If a new RDR granule is

to be produced, then the Non-nominal Missing/Late RDR Granule path is followed. In the event that the RDR granule already exists, IDPS makes a copy of the RDR granule and includes the retransmitted APs in that granule. These granules are identified in the system by an update to their granule version (this value is also included in the HDF5 file metadata attribute, N_Granule_Version).

Once a Repair RDR Granule has been identified and created, a Repair Timeout is begun. Like the Primary Timeout, if at any point during the timeout the RDR Granule becomes 100% complete (no fill value APs, see the CDFCB-X Volume II – RDRs, D34862-02, for more information on AP fill values, and no missing APs) the RDR granule is released for processing and delivery. Otherwise, once the Repair Timeout expires, the percentage of APs contained in the granule is compared with the Repair Threshold. If the Repair Threshold is met or exceeded by the Repaired RDR Granule, then the RDR granule is released for processing and delivery. Like the nominal case for RDR granules, an Unlock Timeout is begun if the RDR granule does not meet or exceed the Repair Threshold. Again, during the Timeout period, if the RDR granule reaches 100% complete, it is released for processing and delivery. Once the Unlock Timeout expires, the RDR granule is compared again to the Repair Threshold to determine if the RDR granule content is adequate for processing or if it is only adequate for delivery.

It is important to note, in the event that a Repaired RDR Granule is released for processing, only that granule is re-tasked for processing by NPOESS – this includes its immediate descendents (only those downstream granules having the same Granule ID). As background, every RDR granule in NPOESS is assigned a unique granule identifier (provided in the metadata as N_Granule_ID). This identifier is passed on to all granules created as a result of a particular granule being tasked for processing. If a Repaired RDR Granule is tasked for processing, only those granules that are created due to the tasking of that granule are updated with the Repaired RDR Granule data. Those granules in the system that may have utilized the original RDR granule for their processing, (for example, due to a nearest-neighbor calculation) will not be updated or re-processed.

As an example for Repaired RDR Granules being released or not for processing and/or delivery:

- Assumptions
    - Primary Threshold is set to 90% for RDR A
    - Repair Threshold is set to 96% for RDR A
    - All of this example occurs within a 24-hour period
- IDPS receives 91% of the APs for an RDR A granule
- This exceeds the 90% Primary Threshold – following the Primary Timeouts the RDR granule is released for processing
    - Release of RDR A Granule, version A1 for processing and delivery
- Some time later, 4% more of the packets arrive, giving 95% accumulation
    - The Repair Timeout is set and expires, but the Repair Threshold is not met, therefore the Unlock Timeout is set
    - The Unlock Timeout expires, this granule is not released for processing since it is under the 96% Repair Threshold
        - RDR A Granule, version A2 is released for delivery
- Later, 3% more of the packets arrive, giving 98% accumulation
    - The Repair Timeout is set and expires, since the Repair Threshold is met,
        - RDR A Granule, version A3 is released for processing and delivery
- Any data that arrives later would be included in an A4 version of the granule and would be processed and delivered accordingly

Figure 3.5.8.4.2-1, Non-Nominal Repaired RDR Granule Data Flow Diagram, provides a graphical depiction of the data flow for Repaired RDR granules

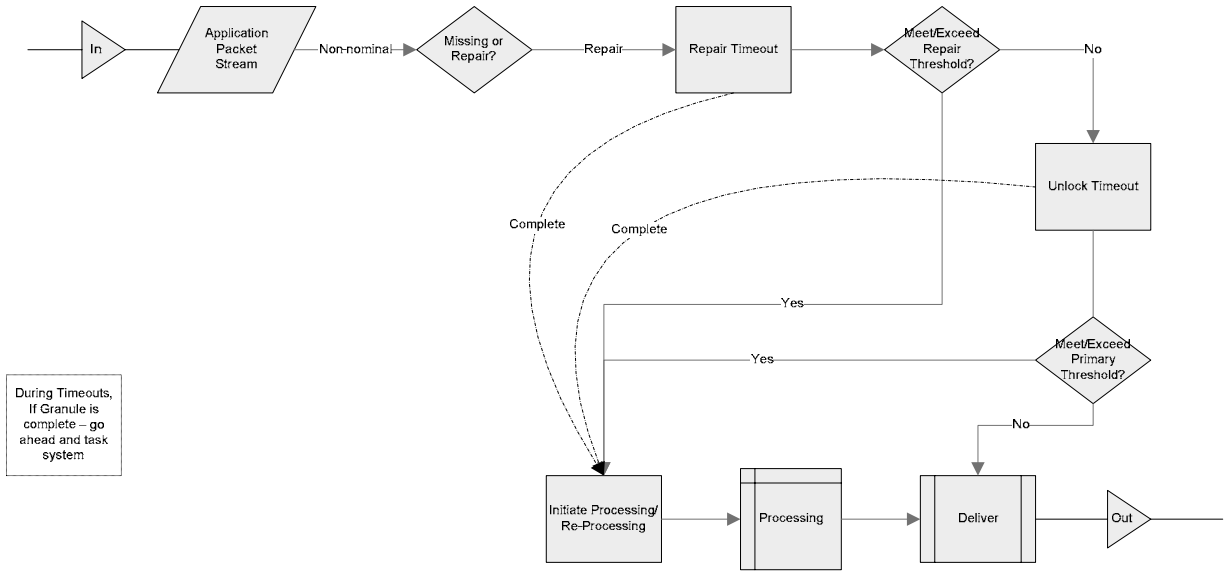


Figure 3.5.8.4.2-1, Non-Nominal Repaired RDR Granule Data Flow Diagram

3.5.7.4.3 NPP/NPOESS Data Product Versioning

All NPP/NPOESS Data Products are associated with a granule ID and granule version. Granule version and granule ID information is provided in the HDF5 file of the delivered NPP/NPOESS Data Products in the granule metadata attributes, N_Granule_Version and N_Granule_ID. As indicated in 3.5.7, Repair Granules, the RDR granules have a granule version of the form A[1…n], where n represents the number of times that the granule is updated. For all other NPP/NPOESS Data Products, additional information may be appended to the RDR granule version to indicate the status of the granule as it is processed through the system.

Granules other than RDR granules may append information to their originating RDR granule version number using the following convention:

$$[M|C][Identifier]^{0\ldots1}[.s]$$

- The “M” indicates that the granule did not already exist in the system and had to be created by the IDP operator. This capability exists so that if there are failures in the system that the IDP Operator needs to recover from, the deliverable products can be created and delivered.
- The “C” indicates that the granule has been re-created. The ‘C’ value will always be followed by an ‘Identifier’. This granule could be created due to the fact that the IDP Operator identified a need to have an additional copy of a particular granule.
- The “Identifier” value is a 64-bit integer representing the processing identifier (PID) of the process that created the granule.
- The “.s” is indicative that only a single process was instantiated by the IDP operator. Take for example the ATMS Re-map SDR to CrIMSS EDR processing chain. If the ATMS Re-map SDR granule version has a “.s” appended to it, the indication is that the processing chain was instantiated to only produce the ATMS Re-map SDR and nothing else down the processing chain. This capability is restricted to non-operational domains.

For more information on granule versioning (metadata element N_Granule_Version) see the CDFCB-X Volume V, D34862-05.

3.5.8 NPP/NPOESS Data Product Timestamps

All NPP/NPOESS Data Products provide timestamps for the products in the metadata provided via the HDF5 files. There are 6 timestamps provided:

- Beginning_Date
- Beginning_Time
- Ending_Date
- Ending_Time
- N_Beginning_Time_IET
- N_Ending_Time_IET

For Raw Data Records (RDR), these timestamps are based on the predicted granule times and will never have overlaps gaps between successive granules. RDR granules are collections of data based on successive periods. Granule periodicity (or duration) is sensor specific and is selected to ensure optimal performance of the processing system. Application Packets (AP) are placed into these granules based on the timestamp in the AP header and the beginning and ending times of the granule.

For Sensor Data Records (SDR), Temperature Data Records (TDR), Intermediate Products (IP), Environmental Data Records (EDR), Geolocation (GEO) data, these timestamps are based on the actual observation time period. Since these timestamps are based on the actual observation time of the Earth View data of the data product included in the granule, gaps and overlapping time periods between successive granules will occur. An exception to this is for that of dynamically sized products where the timestamps are based on the actual observation times for the entire granule as derived from the SDR (as opposed to the Earth View data contained in the product).

Gaps will occur due to the physical characteristics of the Sensor. All of the Sensors have periods of delay between successive Earth Observations, and for some (for example VIIRS), the non-earth observations are also performed between successive Earth Observations. Since the timestamps for non-RDR Data products are based on Earth View Observations, these periods of delay will translate into gaps between

successive granules. Overlaps primarily occur in Imagery EDRs and their GEO due to the projection of the data from sensor space to Ground Track Mercator (GTM) space (these products result in data from 3 successive SDR granules). Other gaps or overlaps may occur due to missing granules in the delivery (for example, granules missing at the time of aggregation) since for these granules, the timestamps will be based on the predicted granule times in the absence of actual times.

In the case where data products are requested as aggregations of granules, if there are missing granules (provided as fill data in order to maintain a contiguous data set) which are located at the beginning or ending of the set, the predicted time from the parent granule is used.

Note: Though the observation times of the data products do not match one for one, the granule ID and other traceability information is provided in the data product for any correlations necessary to get from RDR to EDR. See the CDFCB-X Volume V for more information on traceability with the NPP/NPOESS Data Products.

For Auxiliary Data (AUX) delivered as HDF5 files produced outside of the IDPS, the beginning times and ending times will be based on start and end effectivity times from the AUX filename as received by IDPS. For AUX generated within the IDPS, the beginning times will be based on either the granule start time, if the AUX is produced specifically for one or will be based upon the current time when the AUX was. The Ending times will always be unbounded (all zeros) for AUX produced by IDPS.

APPENDIX A NPP/NPOESS DATA PRODUCT COLLECTION SHORT NAMES

The following table represents the Data Mnemonics, Identifiers, Collection Short Names, and Collection Long Names for each NPOESS Data Product and for Geolocation data. These represent the metadata elements that are used for designating data products in GUIs, Reports, Auxiliary Data, Messages, and reference documents.

Table A-1, Raw Data Record Identifiers

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
RDRE-ADCS-C0030	RADCS	ADCS-SCIENCE-RDR	A-DCS Mission (Science) RDR	NOAA/NESDIS, C3S	NPOESS
RDRE-ADCS-C0031	RADCT	ADCS-TELEMETRY-RDR	A-DCS Telemetry (Housekeeping data) RDR	NOAA/NESDIS, C3S	NPOESS
RDRE-ATMS-C0030	RATMS	ATMS-SCIENCE-RDR	ATMS Science RDR	Centrals, ISF, SDS (NPP ONLY), CLASS, C3S	NPP/NPOESS
RDRE-ATMS-C0032	RATMD	ATMS-DIAGNOSTIC-RDR	ATMS Diagnostic RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-ATMS-C0036	RATMW	ATMS-DWELL-RDR	ATMS Dwell RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-ATMS-C0031	RATMT	ATMS-TELEMETRY-RDR	ATMS Telemetry RDR	Centrals, SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-ATMS-C0035	RATMM	ATMS-DUMP-RDR	ATMS Memory Dump RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-CRIS-C0030	RCRIS	CRIS-SCIENCE-RDR	CrIS Science RDR	Centrals, ISF, SDS (NPP ONLY), CLASS, C3S	NPP/NPOESS
RDRE-CRIS-C0032	RCRID	CRIS-DIAGNOSTIC-RDR	CrIS Diagnostic RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
RDRE-CRIS-C0036	RCRIH	CRIS-HSKDWELL-RDR	CrIS Housekeeping Dwell RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-CRIS-C0046	RCRIM	CRIS-SSMDWELL-RDR	CrIS Scene Selection Module (SSM) Dwell RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-CRIS-C0056	RCRII	CRIS-IMDWELL-RDR	CrIS Interferogram Module (IM) Dwell RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-CRIS-C0031	RCRIT	CRIS-TELEMETRY-RDR	CrIS Telemetry RDR	Centrals, SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-CRIS-C0035	RCRIU	CRIS-DUMP-RDR	CrIS Memory Dump RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-CERS-C0030	RCERS	CERES-SCIENCE-RDR	CERES Science RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP
RDRE-CERS-C0031	RCERT	CERES-TELEMETRY-RDR	CERES Telemetry RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP
RDRE-CERS-C0032	RCERD	CERES-DIAGNOSTIC-RDR	CERES Diagnostic RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP
RDRE-OMPS-C0057	ROFSW	OMPS-FSWBU-RDR	OMPS Flight Software Bootup Status RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-OMPS-C0030	RONPS	OMPS-NPSCIENCE-RDR	OMPS Nadir Profile Science RDR	Centrals, ISF, SDS (NPP ONLY), CLASS, C3S	NPP/NPOESS
RDRE-OMPS-C0037	RONPC	OMPS-NPCALIBRATION-RDR	OMPS Nadir Profile Calibration RDR	Centrals, SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-OMPS-C0052	RONPD	OMPS-NPDIAGNOSTIC-RDR	OMPS Nadir Profile Diagnostic Earth View RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
RDRE-OMPS-C0053	RONDC	OMPS-NPDIAGCAL-RDR	OMPS Nadir Profile Diagnostic Calibration RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-OMPS-C0031	ROTCS	OMPS-TCSCIENCE-RDR	OMPS Nadir Total Column Science RDR	Centrals, ISF, SDS (NPP ONLY), CLASS, C3S	NPP/NPOESS
RDRE-OMPS-C0038	ROTCC	OMPS-TCCALIBRATION-RDR	OMPS Nadir Total Column Calibration RDR	Centrals, SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-OMPS-C0050	ROTCD	OMPS-TCDIAGNOSTIC-RDR	OMPS Nadir Total Column Diagnostic Earth View RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-OMPS-C0051	ROTDC	OMPS-TCDIAGCAL-RDR	OMPS Nadir Total Column Diagnostic Calibration RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-OMPS-C0032	ROLPS	OMPS-LPSCIENCE-RDR	OMPS Limb Profile Science RDR	Centrals, ISF, SDS (NPP ONLY), CLASS. C3S	NPP
RDRE-OMPS-C0039	ROLPC	OMPS-LPCALIBRATION-RDR	OMPS Limb Profile Calibration RDR	Centrals, SDS (NPP ONLY), ISF, CLASS, C3S	NPP
RDRE-OMPS-C0054	ROLE1	OMPS-LPDIAGEXPONE-RDR	OMPS Limb Profile Diagnostic Exposure #1 Earth View RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP
RDRE-OMPS-C0056	ROLE2	OMPS-LPDIAGEXPTWO-RDR	OMPS Limb Profile Diagnostic Exposure #2 Earth View RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP
RDRE-OMPS-C0055	ROLDC	OMPS-LPDIAGCAL-RDR	OMPS Limb Profile Diagnostic Calibration RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
RDRE-OMPS-C0036	ROLPD	OMPS-DWELL-RDR	OMPS Dwell RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-OMPS-C0034	ROLPT	OMPS-TELEMETRY-RDR	OMPS Telemetry RDR	Centrals, SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-OMPS-C0035	ROLPM	OMPS-DUMP-RDR	OMPS Memory Dump RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-SARR-C0031	RSARR	SARR-HOUSEKEEPING-RDR	SARR (Repeater) Housekeeping RDR	NOAA/NESDIS, C3S	NPOESS
RDRE-SARP-C0031	RSARP	SARP-HOUSEKEEPING-RDR	SARP (Processor) Housekeeping RDR	NOAA/NESDIS, C3S	NPOESS
RDRE-VIRS-C0030	RVIRS	VIIRS-SCIENCE-RDR	VIIRS Science RDR	Centrals, ISF, SDS (NPP ONLY), CLASS, C3S	NPP/NPOESS
RDRE-VIRS-C0032	RVIRD	VIIRS-DIAGNOSTIC-RDR	VIIRS Diagnostic RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-VIRS-C0031	RVIRT	VIIRS-TELEMETRY-RDR	VIIRS Telemetry RDR	Centrals, SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-VIRS-C0036	RVITD	VIIRS-TELDIAG-RDR	VIIRS Telemetry Diagnostic RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-VIRS-C0035	RVIDU	VIIRS-DUMP-RDR	VIIRS Memory Dump RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-SCAE-C0030	RNSCA	SPACECRAFT-DIARY-RDR	NPP Spacecraft Diary – Attitude and Ephemeris RDR	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-SCAE-C0031			NPOESS Spacecraft Diary – Attitude and Ephemeris RDR	ISF, CLASS, C3S	NPP/NPOESS

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
RDRE-SCTP-C0031	RNSCT	SPACECRAFT-TELEMETRY-RDR	NPP Spacecraft - Telemetry	SDS (NPP ONLY), ISF, CLASS, C3S	NPP/NPOESS
RDRE-SCTN-C0031			NPOESS Spacecraft – Telemetry	ISF, CLASS, C3S	NPP/NPOESS
RDRE-SCTN-C0036	RNPSD	NPOESS-SCDWELL-RDR	NPOESS Spacecraft – Dwell Telemetry	ISF, CLASS, C3S	NPOESS
RDRE-SCTN-C0035	RNPSU	NPOESS-SCDUMP-RDR	NPOESS Spacecraft – Memory Dump	ISF, CLASS, C3S	NPOESS

Table A-2, Sensor Data Record Identifiers

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
SDRE-ADSD-C0030	SADSD	ADCS-SDR	A-DCS Housekeeping SDR	Centrals, ISF	NPOESS
SDRE-ATMR-C0030	SATMR	ATMS-REMAP-SDR	ATMS Remapped to CrIS SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-ATMS-C0030	SATMS	ATMS-SDR	ATMS Science SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-CRIS-C0030	SCRIS	CrIS-SDR	CrIS Science SDR: LWIR, MWIR, and SWIR bands	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-OMPS-C0030	SOMPS	OMPS-NP-SDR	OMPS Nadir Profile Science SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-OMTC-C0030	SOMTC	OMPS-TC-SDR	OMPS Nadir Total Column Science SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-OMTC-C0031	SOMSC	OMPS-TC-Cal-SDR	OMPS Nadir Total Column Calibration SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-OMPS-C0031	SOMNC	OMPS-NP-Cal-SDR	OMPS Nadir Profile Calibration SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-SARR-C0030	SSART	SARR-SDR	SARR Housekeeping SDR	Centrals, ISF	NPOESS
SDRE-SARP-C0030-	SSAPT	SARP-SDR	SARP Housekeeping SDR	Centrals, ISF	NPOESS
SDRE-VDNB-C0030	SVDNB	VIIRS-DNB-SDR	VIIRS Day Night Band SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-VI01-C0030	SVI01	VIIRS-I1-SDR	VIIRS Imagery Band 01 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-VI02-C0030	SVI02	VIIRS-I2-SDR	VIIRS Imagery Band 02 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-VI03-C0030	SVI03	VIIRS-I3-SDR	VIIRS Imagery Band 03 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
SDRE-VI04-C0030	SVI04	VIIRS-I4-SDR	VIIRS Imagery Band 04 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-VI05-C0030	SVI05	VIIRS-I5-SDR	VIIRS Imagery Band 05 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-VM01-C0030	SVM01	VIIRS-M1-SDR	VIIRS Moderate Resolution Band 01 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM02-C0030	SVM02	VIIRS-M2-SDR	VIIRS Moderate Resolution Band 02 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM03-C0030	SVM03	VIIRS-M3-SDR	VIIRS Moderate Resolution Band 03 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM04-C0030	SVM04	VIIRS-M4-SDR	VIIRS Moderate Resolution Band 04 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM05-C0030	SVM05	VIIRS-M5-SDR	VIIRS Moderate Resolution Band 05 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM06-C0030	SVM06	VIIRS-M6-SDR	VIIRS Moderate Resolution Band 06 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM07-C0030	SVM07	VIIRS-M7-SDR	VIIRS Moderate Resolution Band 07 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM08-C0030	SVM08	VIIRS-M8-SDR	VIIRS Moderate Resolution Band 08 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM09-C0030	SVM09	VIIRS-M9-SDR	VIIRS Moderate Resolution Band 09 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE-VM10-C0030	SVM10	VIIRS-M10-SDR	VIIRS Moderate Resolution Band 10 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM11-C0030	SVM11	VIIRS-M11-SDR	VIIRS Moderate Resolution Band 11 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
SDRE- VM12-C0030	SVM12	VIIRS-M12-SDR	VIIRS Moderate Resolution Band 12 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM13-C0030	SVM13	VIIRS-M13-SDR	VIIRS Moderate Resolution Band 13 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM14-C0030	SVM14	VIIRS-M14-SDR	VIIRS Moderate Resolution Band 14 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM15-C0030	SVM15	VIIRS-M15-SDR	VIIRS Moderate Resolution Band 15 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
SDRE- VM16-C0030	SVM16	VIIRS-M16-SDR	VIIRS Moderate Resolution Band 16 SDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS

Table A-3, Temperature Data Record Identifiers

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
TDRE-ATMS-C0030	TATMS	ATMS-TDR	ATMS Science TDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS

Table A-4, Environmental Data Record Identifiers

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
EDRE-AVMP-C1030	REDRO	CrIMSS-EDR	CrIMSS Atmospheric Vertical Profile (AVP) EDR – Includes Moisture, Temperature, and Pressure parameters	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-OMTC-C0030	OOTCO	OMPS-TC-EDR	OMPS Total Column Ozone EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-AOTH-C1030	VAOOO	VIIRS-Aeros-EDR	VIIRS Aerosol Optical Thickness (AOT) EDR and VIIRS Aerosol Particle Size Parameter (APSP) EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-CLBH-C1030	VCBHO	VIIRS-CBH-EDR	VIIRS Cloud Base Height EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VCCL-C0030	VCCLO	VIIRS-CCL-EDR	VIIRS Cloud Cover Layers EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VCEP-C0030	VCEPO	VIIRS-CEPS-EDR	VIIRS Cloud Effective Particle Size EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VCOT-C0030	VCOTO	VIIRS-COT-EDR	VIIRS Cloud Optical Thickness EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VCTH-C0030	VCTHO	VIIRS-CTH-EDR	VIIRS Cloud Top Height EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VCTP-C0030	VCTPO	VIIRS-CTP-EDR	VIIRS Cloud Top Pressure EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
EDRE-VCTT-C0030	VCTTO	VIIRS-CTT-EDR	VIIRS Cloud Top Temperature EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-IMAG-C0030	VI1BO	VIIRS-I1-IMG-EDR	VIIRS Imagery Band 01 EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
	VI2BO	VIIRS-I2-IMG-EDR	VIIRS Imagery Band 02 EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
	VI3BO	VIIRS-I3-IMG-EDR	VIIRS Imagery Band 03 EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
	VI4BO	VIIRS-I4-IMG-EDR	VIIRS Imagery Band 04 EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
	VI5BO	VIIRS-I5-IMG-EDR	VIIRS Imagery Band 05 EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-ICST-C1030	VISTO	VIIRS-IST-EDR	VIIRS Ice Surface Temperature EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VLST-C0030	VLSTO	VIIRS-LST-EDR	VIIRS Land Surface Temperature EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VMOD-C0030	VM01O	VIIRS-M1ST-EDR	VIIRS 1st M Band Imagery EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
	VM02O	VIIRS-M2ND-EDR	VIIRS 2nd M Band Imagery EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
	VM03O	VIIRS-M3RD-EDR	VIIRS 3rd M Band Imagery EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
	VM04O	VIIRS-M4TH-EDR	VIIRS 4th M Band Imagery EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
	VM05O	VIIRS-M5TH-EDR	VIIRS 5th M Band Imagery EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
	VM06O	VIIRS-M6TH-EDR	VIIRS 6th M Band Imagery EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-IMAG-C1030	VNCCO	VIIRS-NCC-EDR	VIIRS Near Constant Contrast Imagery EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VNHF-C0030	VNHFO	VIIRS-NHF-EDR	VIIRS Net Heat Flux EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VROC-C0030	VOCCO	VIIRS-OCC-EDR	VIIRS Ocean Color/Chlorophyll EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VRSA-C0030	VISAO	VIIRS-SA-EDR	VIIRS Surface Albedo EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-SNCD-C1030	VSCDO	VIIRS-SCD-BINARY-SNOW-FRAC-EDR	VIIRS Snow Cover/Depth Snow Fraction EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-SNCD-C1035	VSCMO	VIIRS-SCD-BINARY-SNOW-MAP-EDR	VIIRS Snow Cover/Depth Binary Map EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
EDRE-SICH-C1030	VSICO	VIIRS-SIC-EDR	VIIRS Sea Ice Characterization EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-SSTE-C1030	VSSTO	VIIRS-SST-EDR	VIIRS Sea Surface Temperature EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VSTV-C0030	VSTYO	VIIRS-ST-EDR	VIIRS Surface Type EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VRSM-C0030	VSUMO	VIIRS-SusMat-EDR	VIIRS Suspended Matter EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
EDRE-VRVI-C0030	VIVIO	VIIRS-VI-EDR	VIIRS Vegetation Index EDR	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS

Table A-5, Substitute Environmental Data Record Identifiers

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
EDRE-AVTP-C1031	REDRS	CrIMSS-EDR-SUB	CrIMSS AVP EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-OMTC-C0031	OOTCS	OMPS-TC-EDR-SUB	OMPS Ozone Total Column EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-AOTH-C1031	VAOOS	VIIRS-Aeros-EDR-SUB	VIIRS AOT EDR and VIIRS APSP-SUB	Centrals, ISF	NPP/NPOESS
EDRE-CLBH-C1031	VCBHS	VIIRS-CBH-EDR-SUB	VIIRS Cloud Base Height EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VCCL-C0031	VCCLS	VIIRS-CCL-EDR-SUB	VIIRS Cloud Cover Layers EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VCEP-C0031	VCEPS	VIIRS-CEPS-EDR-SUB	VIIRS Cloud Effective Particle Size EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VCOT-C0031	VCOTS	VIIRS-COT-EDR-SUB	VIIRS Cloud Optical Thickness EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VCTH-C0031	VCTHS	VIIRS-CTH-EDR-SUB	VIIRS Cloud Top Height EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VCTP-C0031	VCTPS	VIIRS-CTP-EDR-SUB	VIIRS Cloud Top Pressure EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VCTT-C0031	VCTTS	VIIRS-CTT-EDR-SUB	VIIRS Cloud Top Temperature EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VIST-C1031	VISTS	VIIRS-IST-EDR-SUB	VIIRS Ice Surface Temperature EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VLST-C0031	VLSTS	VIIRS-LST-EDR-SUB	VIIRS Land Surface Temperature EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-IMAG-C1031	VNCCS	VIIRS-NCC-EDR-SUB	VIIRS Near Constant Contrast Imagery EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VNHF-C0031	VNHFS	VIIRS-NHF-EDR-SUB	VIIRS Net Heat Flux EDR-SUB	Centrals, ISF	NPP/NPOESS

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
EDRE-VROC-C0031	VOCCS	VIIRS-OCC-EDR-SUB	VIIRS Ocean Color/Chlorophyll EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VRSA-C0031	VISAS	VIIRS-SA-EDR-SUB	VIIRS Surface Albedo EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-SNCD-C1031	VSCDS	VIIRS-SCD-BINARY-SNOW-FRAC-EDR-SUB	VIIRS Snow Cover/Depth Snow Fraction EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-SNCD-C1036	VSCMS	VIIRS-SCD-BINARY-SNOW-MAP-EDR-SUB	VIIRS Snow Cover/Depth Binary Map EDR	Centrals, ISF	NPP/NPOESS
EDRE-SICH-C1031	VSICS	VIIRS-SIC-EDR-SUB	VIIRS Sea Ice Characterization EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-SSTE-C1031	VSSTS	VIIRS-SST-EDR-SUB	VIIRS Sea Surface Temperature EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VSTV-C0031	VSTPS	VIIRS-ST-EDR-SUB	VIIRS Surface Type, Vegetation Cover EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VRSM-C0031	VSUMS	VIIRS-SusMat-EDR-SUB	VIIRS Suspended Matter EDR-SUB	Centrals, ISF	NPP/NPOESS
EDRE-VRVI-C0031	VIVIS	VIIRS-VI-EDR-SUB	VIIRS Vegetation Index EDR-SUB	Centrals, ISF	NPP/NPOESS

Table A-6, Intermediate Product Record Identifiers

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
IMPE-NAOP-C0030	IMOPO	OMPS-NP-IP	OMPS Nadir Profile Ozone IP	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
IMPE-NAOP-C0031	IMOPS	OMPS-NP-IP-SUB	OMPS Nadir Profile Ozone IP-SUB	Centrals, ISF, SDS (NPP ONLY)	NPP/NPOESS
IMPE-CMIP-C0030	IICMO	VIIRS-CM-IP	VIIRS Cloud Mask IP	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
IMPE-CMIP-C0031	IICMS	VIIRS-CM-IP-SUB	VIIRS Cloud Mask IP-SUB	Centrals, ISF, SDS (NPP ONLY)	NPP/NPOESS
IMPE-QSIP-C0030	IQSTO	Quarterly-ST-IP	Quarterly Surface Type IP	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
IMPE-IROZ-C0030	IIROO	CrIS-IR-OZ-Prof-IP	CrIS Infra-Red Ozone IP	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
IMPE-IROZ-C0031	IIROS	CrIS-IR-OZ-Prof-IP-SUB	CrIS Infra-Red Ozone IP-SUB	Centrals, ISF, SDS (NPP ONLY)	NPP/NPOESS

Table A-7, Application Related Product Identifiers

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
ARPE-VRAF-C0030	AVAFO	VIIRS-AF-EDR	VIIRS Active Fires ARP	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
ARPE-VRAF-C0031	AVAFS	VIIRS-AF-EDR-SUB	VIIRS Active Fires EDR-SUB	Centrals, ISF	NPP/NPOESS

Table A-8, Geolocation Identifiers

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
N/A	GATMO	ATMS-SDR-GEO	ATMS SDR Ellipsoid Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GCRSO	CrIS-SDR-GEO	CrIS SDR Ellipsoid Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GAERO	VIIRS-Aeros-EDR-GEO	VIIRS Aerosol (aggregated) EDR Ellipsoid Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GCLDO	VIIRS-CLD-AGG-GEO	VIIRS Cloud Aggregated EDR Ellipsoid Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GDNBO	VIIRS-DNB-GEO	VIIRS Day Night Band SDR Ellipsoid Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GNCCO	VIIRS-NCC-EDR-GEO	VIIRS Near Constant Contrast (NCC) EDR Ground Track Mercator (GTM) Geolocation Data Provided with VIIRS NCC Imagery Data Format Definition	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GIGTO	VIIRS-IMG-GTM-EDR-GEO	VIIRS Image Bands EDR GTM Geolocation Data Provided with VIIRS I-Band Imagery Data Format Definition	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GIMGO	VIIRS-IMG-GEO	VIIRS Image Bands SDR Ellipsoid Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GITCO	VIIRS-IMG-GEO-TC	VIIRS Image Bands SDR Terrain Corrected Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
N/A	GMGTO	VIIRS-MOD-GTM-EDR-GEO	VIIRS Moderate Bands GTM EDR Geolocation Data Provided with VIIRS M-Band Imagery Data Format Definition	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GMODO	VIIRS-MOD-GEO	VIIRS Moderate Bands SDR Geolocation Data Provided in Degrees	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GMTCO	VIIRS-MOD-GEO-TC	VIIRS Moderate Bands SDR Terrain Corrected Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GNHFO	VIIRS-NHF-EDR-GEO	VIIRS Net Heat Flux EDR Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GSICO	VIIRS-SIC-GEO	VIIRS Sea Ice Characterization EDR Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GOTCO	OMPS-TC-GEO	OMPS Total Column SDR Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GOSCO	OMPS-TC-Cal-GEO	OMPS Total Column Calibration SDR Geolocation Provided with OMPS Total Column Calibration SDR Data Format Definition	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GONPO	OMPS-NP-GEO	OMPS Nadir Profile SDR Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GONCO	OMPS-NP-Cal-GEO	OMPS Nadir Profile Calibration SDR Geolocation Provided with OMPS Nadir Profile Calibration SDR Data Format Definition	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS

Data Mnemonic	Data Product ID	Collection Short Name	Definition and/or Collection Long Name	Receiver	Effectivity
N/A	GCRIO	CrIMSS-EDR-GEO-TC	CrIMSS EDR Terrain Corrected Geolocation Data	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
N/A	GATRO	ATMS-REMAP-SDR-GEO	ATMS Remapped to CrIS SDR Ellipsoid Geolocation Data Provided with ATMS Remap SDR Data Format Definition	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS

APPENDIX B NPP/NPOESS AUXILIARY DATA, ANCILLARY DATA, REPORTS, AND MESSAGES COLLECTION SHORT NAMES

The following tables provide the Data Mnemonics, Collection Short Names (Identifiers), and Collection Long Names for Auxiliary and Ancillary metadata elements used for designating data products in logs, GUIs, and reference documents.

Table B-1, Auxiliary Data Format Identifiers – Reports and Messages

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
C3_NU-L00070-070	Mission-Schedule-AUX	Mission Schedule AUX Native	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
C3_NU-L00100-100	TLE-AUX	Two Line Element AUX	Centrals, ISF, SDS (NPP ONLY), CLASS	NPP/NPOESS
C3_NU-L00100-101	Pred-Post-Mnvr-TLE-Sets	Prediction of Post Maneuver Two Line Element Sets	Centrals, ISF, SDS (NPP ONLY)	NPP/NPOESS
DP_NU-L00080-002	DQM-Repository	Data Quality Monitoring (DQM) Repository Reports	Centrals, ISF, CLASS	NPP/NPOESS
DP_NU-L00080-003	DQM-Statistical	DQM Statistical Reports	Centrals, ISF, CLASS	NPP/NPOESS
DP_NU-L00080-004	DQM-Trending	DQM Trending Reports	Centrals, ISF, CLASS	NPP/NPOESS
DP_NU-L00080-005	DQM-Ad-Hoc	DQM Ad-Hoc Reports	Centrals, ISF, CLASS	NPP/NPOESS
DP_NU-L00090-001	DQM-Monitoring	DQM Messages	Centrals, ISF, CLASS	NPP/NPOESS
C3_NU-L00040-040	SCDBU-AUX	Spacecraft Configuration Database Update	Centrals, ISF, CLASS	NPP/NPOESS
C3_NU-L00000-005	SC-Public-Key	Spacecraft Public Key Certificates	Centrals, ISF, CLASS	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-L00050-000	NPOESS-XML-Manifest	Release Package Delivery Manifest	Centrals, CLASS	NPP/NPOESS
C3_NU-LW2170-000	CERES-AUX	CERES APID Telemetry Files	SDS, CLASS	NPP
C3_NU-LW2170-001	CERES-Angle-AUX	CERES Solar Ephemeris (Pointing Angles)	SDS, CLASS	NPP
C3_NU-L00030-030	Rev-Num-AUX	Revolution Number (Predictions of NPOESS revolution numbers)	E-MSDS (All External Authorized Users)	NPP/NPOESS

Table B-2, Auxiliary Data Format Identifiers – Sensor Calibration Table Updates

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
DP_NU-L00020-020	Sen-Calib-Coeff-NPP-ATMS-AUX	NPP ATMS Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-CrIS-AUX	NPP CrIS Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-CERES-AUX	NPP CERES Sensor Calibration Tables Updates	CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCGCE-AUX	NPP OMPS TC Gain Correction Table – Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-NPGCE-AUX	NPP OMPS NP Gain Correction Table – Earth Observation Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPGCE-AUX	NPP OMPS LP Gain Correction Table – Earth Observation Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTC1-AUX	NPP OMPS TC Sample Table On Orbit Calibration 01 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTC2-AUX	NPP OMPS TC Sample Table On Orbit Calibration 02 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTC3-AUX	NPP OMPS TC Sample Table On Orbit Calibration 03 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTC4-AUX	NPP OMPS TC Sample Table On Orbit Calibration 04 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	Sen-Calib-Coeff-NPP-OMPS-TCSTC5-AUX	NPP OMPS TC Sample Table On Orbit Calibration 05 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTEV-AUX	NPP OMPS TC Sample Table Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTC6-AUX	NPP OMPS TC Sample Table On Orbit Calibration 06 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTC7-AUX	NPP OMPS TC Sample Table On Orbit Calibration 07Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTC8-AUX	NPP OMPS TC Sample Table On Orbit Calibration 08 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTC9-AUX	NPP OMPS TC Sample Table On Orbit Calibration 09 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTC10-AUX	NPP OMPS TC Sample Table On Orbit Calibration 10 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTC11-AUX	NPP OMPS TC Sample Table On Orbit Calibration 11 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTC12-AUX	NPP OMPS TC Sample Table On Orbit Calibration 12 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCSTC13-AUX	NPP OMPS TC Sample Table On Orbit Calibration 13 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	Sen-Calib-Coeff-NPP-OMPS-TCSTC14-AUX	NPP OMPS TC Sample Table On Orbit Calibration 14 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-TCLCEV-AUX	NPP OMPS TC Sample Table Linearity Correction Table – Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-NPSTEV-AUX	NPP OMPS NP Sample Table – Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-NPSTC1-AUX	NPP OMPS NP Sample Table On Orbit Calibration 01 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-NPSTC2-AUX	NPP OMPS NP Sample Table On Orbit Calibration 02 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-NPSTC3-AUX	NPP OMPS NP Sample Table On Orbit Calibration 03 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-NPSTC4-AUX	NPP OMPS NP Sample Table On Orbit Calibration 04 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-NPSTC5-AUX	NPP OMPS NP Sample Table On Orbit Calibration 05 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-NPSTC6-AUX	NPP OMPS NP Sample Table On Orbit Calibration 06 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-NPSTC7-AUX	NPP OMPS NP Sample Table On Orbit Calibration 07 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	Sen-Calib-Coeff-NPP-OMPS-NPSTC8-AUX	NPP OMPS NP Sample Table On Orbit Calibration 08 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-NPSTC9-AUX	NPP OMPS NP Sample Table On Orbit Calibration 09 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-NPLCEV-AUX	NPP OMPS NP Linearity Correction Table Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTEV1-AUX	NPP OMPS LP (Long Exposure) Sample Table – Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTEV1=2-AUX	NPP OMPS LP (Short Exposure) Sample Table – Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTC1-AUX	NPP OMPS LP Sample Table On Orbit Calibration 01 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTC2-AUX	NPP OMPS LP Sample Table On Orbit Calibration 02 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTC3-AUX	NPP OMPS LP Sample Table On Orbit Calibration 03 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTC4-AUX	NPP OMPS LP Sample Table On Orbit Calibration 04 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTC5-AUX	NPP OMPS LP Sample Table On Orbit Calibration 05 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	Sen-Calib-Coeff-NPP-OMPS-LPSTC6-AUX	NPP OMPS LP Sample Table On Orbit Calibration 06 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTC7-AUX	NPP OMPS LP Sample Table On Orbit Calibration 07 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTC8-AUX	NPP OMPS LP Sample Table On Orbit Calibration 08 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTC9-AUX	NPP OMPS LP Sample Table On Orbit Calibration 09 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTC10-AUX	NPP OMPS LP Sample Table On Orbit Calibration 10 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTC11-AUX	NPP OMPS LP Sample Table On Orbit Calibration 11 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTC12-AUX	NPP OMPS LP Sample Table On Orbit Calibration 12 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPSTC13-AUX	NPP OMPS LP Sample Table On Orbit Calibration 13 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-OMPS-LPLCEV-AUX	NPP OMPS LP Linearity Correction Table – Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-VIIRS-DNBAgg-AUX	NPP VIIRS DNB Aggregation Mode Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-VIIRS-DNBRad-AUX	NPP VIIRS DNB Radiation Thresholds Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	Sen-Calib-Coeff-NPP-VIIRS-DNB1A-AUX	NPP VIIRS DNB 1A Offsets Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-VIIRS-DNB1B-AUX	NPP VIIRS DNB 1B Offsets Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-VIIRS-DNB2-AUX	NPP VIIRS DNB 2 Offsets Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-NPP-VIIRS-DNB3-AUX	NPP VIIRS DNB 3 Offsets Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-N01-ATMS-AUX	N01 ATMS Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-CrIS-AUX	N01 CrIS Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-CERES-AUX	N01 CERES Sensor Calibration Tables Updates	CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCGCE-AUX	N01 OMPS TC Gain Correction Table – Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-NPGCE-AUX	N01 OMPS NP Gain Correction Table – Earth Observation Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPGCE-AUX	N01 OMPS LP Gain Correction Table – Earth Observation Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTC1-AUX	N01 OMPS TC Sample Table On Orbit Calibration 01 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTC2-AUX	N01 OMPS TC Sample Table On Orbit Calibration 02 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	Sen-Calib-Coeff-N01-OMPS-TCSTC3-AUX	N01 OMPS TC Sample Table On Orbit Calibration 03 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTC4-AUX	N01 OMPS TC Sample Table On Orbit Calibration 04 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTC5-AUX	N01 OMPS TC Sample Table On Orbit Calibration 05 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTEV-AUX	N01 OMPS TC Sample Table Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTC6-AUX	N01 OMPS TC Sample Table On Orbit Calibration 06 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTC7-AUX	N01 OMPS TC Sample Table On Orbit Calibration 07Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTC8-AUX	N01 OMPS TC Sample Table On Orbit Calibration 08 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTC9-AUX	N01 OMPS TC Sample Table On Orbit Calibration 09 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTC10-AUX	N01 OMPS TC Sample Table On Orbit Calibration 10 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTC11-AUX	N01 OMPS TC Sample Table On Orbit Calibration 11 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	Sen-Calib-Coeff-N01-OMPS-TCSTC12-AUX	N01 OMPS TC Sample Table On Orbit Calibration 12 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTC13-AUX	N01 OMPS TC Sample Table On Orbit Calibration 13 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCSTC14-AUX	N01 OMPS TC Sample Table On Orbit Calibration 14 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-TCLCEV-AUX	N01 OMPS TC Sample Table Linearity Correction Table – Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-NPSTEV-AUX	N01 OMPS NP Sample Table – Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-NPSTC1-AUX	N01 OMPS NP Sample Table On Orbit Calibration 01 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-NPSTC2-AUX	N01 OMPS NP Sample Table On Orbit Calibration 02 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-NPSTC3-AUX	N01 OMPS NP Sample Table On Orbit Calibration 03 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-NPSTC4-AUX	N01 OMPS NP Sample Table On Orbit Calibration 04 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-NPSTC5-AUX	N01 OMPS NP Sample Table On Orbit Calibration 05 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	Sen-Calib-Coeff-N01-OMPS-NPSTC6-AUX	N01 OMPS NP Sample Table On Orbit Calibration 06 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-NPSTC7-AUX	N01 OMPS NP Sample Table On Orbit Calibration 07 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-NPSTC8-AUX	N01 OMPS NP Sample Table On Orbit Calibration 08 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-NPSTC9-AUX	N01 OMPS NP Sample Table On Orbit Calibration 09 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-NPLCEV-AUX	N01 OMPS NP Linearity Correction Table Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTEV1-AUX	N01 OMPS LP (Long Exposure) Sample Table – Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTEV1=2-AUX	N01 OMPS LP (Short Exposure) Sample Table – Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTC1-AUX	N01 OMPS LP Sample Table On Orbit Calibration 01 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTC2-AUX	N01 OMPS LP Sample Table On Orbit Calibration 02 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTC3-AUX	N01 OMPS LP Sample Table On Orbit Calibration 03 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	Sen-Calib-Coeff-N01-OMPS-LPSTC4-AUX	N01 OMPS LP Sample Table On Orbit Calibration 04 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTC5-AUX	N01 OMPS LP Sample Table On Orbit Calibration 05 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTC6-AUX	N01 OMPS LP Sample Table On Orbit Calibration 06 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTC7-AUX	N01 OMPS LP Sample Table On Orbit Calibration 07 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTC8-AUX	N01 OMPS LP Sample Table On Orbit Calibration 08 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTC9-AUX	N01 OMPS LP Sample Table On Orbit Calibration 09 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTC10-AUX	N01 OMPS LP Sample Table On Orbit Calibration 10 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTC11-AUX	N01 OMPS LP Sample Table On Orbit Calibration 11 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTC12-AUX	N01 OMPS LP Sample Table On Orbit Calibration 12 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-OMPS-LPSTC13-AUX	N01 OMPS LP Sample Table On Orbit Calibration 13 Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	Sen-Calib-Coeff-N01-OMPS-LPLCEV-AUX	N01 OMPS LP Linearity Correction Table – Earth Observations Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-SEM-AUX	N01 SEM Sensor Calibration Tables Updates	CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-VIIRS-DNBAgg-AUX	N01 VIIRS DNB Aggregation Mode Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-VIIRS-DNBRad-AUX	N01 VIIRS DNB Radiation Thresholds Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-VIIRS-DNB1A-AUX	N01 VIIRS DNB 1A Offsets Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-VIIRS-DNB1B-AUX	N01 VIIRS DNB 1B Offsets Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-VIIRS-DNB2-AUX	N01 VIIRS DNB 2 Offsets Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP/NPOESS, NPOESS
	Sen-Calib-Coeff-N01-VIIRS-DNB3-AUX	N01 VIIRS DNB 3 Offsets Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPP, NPP/NPOESS
	Sen-Calib-Coeff-N02-VIIRS-DNBAgg-AUX	N02 VIIRS DNB Aggregation Mode Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPOESS
	Sen-Calib-Coeff-N02-VIIRS-DNBRad-AUX	N02 VIIRS DNB Radiation Thresholds Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPOESS
	Sen-Calib-Coeff-N02-VIIRS-DNB1A-AUX	N02 VIIRS DNB 1A Offsets Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPOESS
	Sen-Calib-Coeff-N02-VIIRS-DNB1B-AUX	N02 VIIRS DNB 1B Offsets Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPOESS
	Sen-Calib-Coeff-N02-VIIRS-DNB2-AUX	N02 VIIRS DNB 2 Offsets Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPOESS
	Sen-Calib-Coeff-N02-VIIRS-DNB3-AUX	N02 VIIRS DNB 3 Offsets Sensor Calibration Tables Updates	Centrals, CLASS, ISF	NPOESS

Table B-3, Auxiliary Data Format Identifiers – Ephemeral Processing Coefficients

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
DP_NU-LM2020-001	ATMS-SDR-CC	ATMS SDR Calibration Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	ATMS-REMAP-SDR-CC	ATMS Remap SDR Calibration Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	CrIS-SDR-CC	CrIS SDR Calibration Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	OMPS-NP-SDR-CC	OMPS Nadir Profile SDR Calibration Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	OMPS-TC-SDR-CC	OMPS Total Column SDR Calibration Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-SDR-CC	VIIRS SDR Calibration Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	CrIMSS-EDR-AC	CrIMSS EDR Algorithm Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	OMPS-NP-IP-AC	OMPS Nadir Profile IP Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	OMPS-TC-EDR-AC	OMPS Ozone Total Column EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-AF-EDR-AC	VIIRS Active Fires EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-AOT-EDR-AC	VIIRS Aerosol Optical Thickness EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-APSP-EDR-AC	VIIRS Aerosol Particle Size Parameter EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-CBH-IP-AC	VIIRS Cloud Base Height IP Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-CCL-IP-AC	VIIRS Cloud Cover Layers IP Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	VIIRS-CM-IP-AC	VIIRS Cloud Mask Intermediate Product Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-COP-IP-AC	VIIRS Cloud Optical Properties IP Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-CTP-IP-AC	VIIRS Cloud Top Parameters IP Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-GCE-AC	VIIRS Generate Cloud EDRs Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-IST-EDR-AC	VIIRS Ice Surface Temperature EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-LSA-IP-AC	VIIRS Land Surface Albedo IP Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-LST-EDR-AC	VIIRS Land Surface Temperature EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-NCC-EDR-AC	VIIRS Near Constant Contrast Imagery EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-NHF-EDR-AC	VIIRS Net Heat Flux EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-OCC-EDR-AC	VIIRS Ocean Color/Chlorophyll EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-SA-EDR-AC	VIIRS Surface Albedo EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-SCD-EDR-AC	VIIRS Snow Cover/Depth EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-SIC-EDR-AC	VIIRS Sea Ice Characterization EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-SR-IP-AC	VIIRS Surface Reflectance Algorithm Coefficient	Centrals, CLASS, ISF	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	VIIRS-SST-EDR-AC	VIIRS Sea Surface Temperature EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-ST-EDR-AC	VIIRS Surface Type EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-SusMat-EDR-AC	VIIRS Suspended Matter EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
	VIIRS-VI-EDR-AC	VIIRS Vegetation Index EDR Algorithm Coefficients	Centrals, CLASS, ISF	NPP/NPOESS

Table B-4, Auxiliary Data Format Identifiers – Initialization Processing Coefficients

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-LM0230-000	CrIMSS-DAY-LAA-COEFF-LUT	CrIMSS Daytime Local Angle Adjustment Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-001	CrIMSS-DAY-LAA-EOF-LUT	CrIMSS Daytime Local Angle Adjustment EOF Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-002	CrIMSS-IR-ATM-NOISE-LUT	CrIMSS Infra-Red Channel Atmospheric Noise Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-003	CrIMSS-IR-NOISE-LUT	CrIMSS Infra-Red Channel NEdN Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-004	CrIMSS-MW-ATM-NOISE-LUT	CrIMSS Microwave Atmospheric Noise Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-005	CrIMSS-MW-FRQ-POL-LUT	CrIMSS Microwave Frequency Polarization Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-006	CrIMSS-MW-NOISE-AMPL-LUT	CrIMSS Microwave Noise Amplification Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-007	CrIMSS-MW-NOISE-LUT	CrIMSS Microwave Noise Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-008	CrIMSS-NIGHT-LAA-COEFF-LUT	CrIMSS Nighttime Local Angle Adjustment Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-009	CrIMSS-NIGHT-LAA-EOF-LUT	CrIMSS Nighttime Local Angle Adjustment EOF Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-010	CrIMSS-NWP-TEMP-COEFF-LUT	CrIMSS NWP Temperature Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-011	CrIMSS-NWP-WAT-VAP-COEFF-LUT	CrIMSS NWP Water Vapor Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-012	CrIMSS-SOLAR-LUT	CrIMSS Solar Irradiance and Infra-Red Frequency Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-LM0230-013	CrIMSS-TRACE-GAS-LUT	CrIMSS Trace Gas Reference Profiles Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-014	CrIMSS-TROP-LUT	CrIMSS Tropopause Reference Profiles Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0230-015	CrIMSS-CLIM-LUT	CrIMSS Climatological Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0231-000	ATMS-FPMATCH-LUT	ATMS Footprint Matching Kernels Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-001	VIIRS-CBH-LWC-LUT	VIIRS Cloud Base Height (CBH) Liquid Water Concentration Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-002	VIIRS-CloudType-LUT	VIIRS Cloud Type Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-003	VIIRS-Cop-Transmittance-LUT	VIIRS Cloud Optical Properties Surface Albedo and Emissivity Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-005	VIIRS-CLD-AGG-LUT	VIIRS Cloud Cover/Layers Cloud Aggregation Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-006	VIIRS-ICE-THICKNESS-LUT	VIIRS Ice Thickness Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-008	VIIRS-ICE-CONC-LUT	VIIRS Ice Concentration Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-009	VIIRS-SURF-TEMP-COEFF-LUT	VIIRS Surface Temperature Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-010	VIIRS-ICE-QUAL-LUT	VIIRS Ice Quality Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-0011	VIIRS-IST-Coef-LUT	VIIRS Ice Surface Temperature Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-012	VIIRS-LST-Coef-LUT	VIIRS Land Surface Temperature Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-LM0233-013	VIIRS-Ga-Val-Vs-Scene-Lun-Elev-LUT	VIIRS Gain Value Versus Scene Lunar Elevation Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-014	VIIRS-Ga-Val-Vs-Scene-Sol-Elev-LUT	VIIRS Gain Value Versus Scene Solar Elevation Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-015	VIIRS-Lun-BRDF-LUT	VIIRS Lunar BRDF Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-016	VIIRS-LUN-Phase-LUT	VIIRS Lunar Phase Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-017	VIIRS-Sol-BRDF-LUT	VIIRS Solar BRDF Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-018	VIIRS-SST-Coef-LUT	VIIRS Sea Surface Temperature Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-019	VIIRS-LSA-KERNEL-ALBEDO-LUT	VIIRS Land Surface Albedo Kernel Albedo Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-021	VIIRS-SDR-BB-TEMP-COEFFS-LUT	VIIRS Blackbody Thermistor Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-022	VIIRS-SDR-COEFF-A-LUT	VIIRS Detector Response Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-023	VIIRS-SDR-COEFF-B-LUT	VIIRS Electronic Response Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-024	VIIRS-SDR-DELTA-C-LUT	VIIRS Delta C Temperature Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-025	VIIRS-SDR-DNB-C-COEFFS-LUT	VIIRS Day/Night Band C Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-026	VIIRS-SDR-DNB-DN0-LUT	VIIRS Day/Night Band Digital Count 0 Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-027	VIIRS-SDR-DNB-FRAME-TO-ZONE-LUT	VIIRS Day/Night Band Frame to Zone Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-028	VIIRS-SDR-DNB-RVS-LUT	VIIRS Day/Night Band Response Versus Angle Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-LM0233-029	VIIRS-SDR-EBBT-LUT	VIIRS EBBT Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-030	VIIRS-SDR-EMISSIVE-LUT	VIIRS Emissivity Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-031	VIIRS-SDR-F-LUT	VIIRS F Table Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-032	VIIRS-SDR-GAIN-LUT	VIIRS Gain Table Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-033	VIIRS-SDR-GEO-DNB-PARAM-LUT	VIIRS Day/Night Band Geolocation Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-034	VIIRS-SDR-GEO-IMG-PARAM-LUT	VIIRS Imagery Geolocation Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-036	VIIRS-SDR-HAM-ER-LUT	VIIRS Half Angle Mirror Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-037	VIIRS-SDR-OBC-ER-LUT	VIIRS OBC Emitted Radiance Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-038	VIIRS-SDR-OBC-RR-LUT	VIIRS OBC Reflected Radiance Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-039	VIIRS-SDR-OBS-TO-PIXELS-LUT	VIIRS OBS to Pixel Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-040	VIIRS-SDR-QA-LUT	VIIRS Quality Assurance Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-041	VIIRS-SDR-RADIOMETRIC-PARAM-LUT	VIIRS Radiometric Parameters Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-042	VIIRS-SDR-REFLECTIVE-LUT	VIIRS Reflective Values Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-043	VIIRS-SDR-RSR-LUT	VIIRS RSR Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-LM0233-044	VIIRS-SDR-RTA-ER-LUT	VIIRS Rotating Telescope Assembly Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-045	VIIRS-SDR-RVS-LUT	VIIRS Response Versus Frame Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-047	VIIRS-SDR-SOLAR-IRAD-LUT	VIIRS Solar Irradiances Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-048	VIIRS-SDR-TELE-COEFFS-LUT	VIIRS Telemetry Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-049	VIIRS-SOLAR-DIFF-COEFF-A-LUT	VIIRS Solar Diffuser A Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-050	VIIRS-SOLAR-DIFF-COEFF-B-LUT	VIIRS Solar Diffuser B Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-051	VIIRS-SOLAR-DIFF-DELTA-C-LUT	VIIRS Solar Diffuser Delta C Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-052	VIIRS-SOLAR-DIFF-GAIN-LUT	VIIRS Solar Diffuser Gain Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-053	VIIRS-SOLAR-DIFF-LAMBDA-LUT	VIIRS Solar Diffuser Lambda Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-054	VIIRS-SOLAR-DIFF-PHI-LUT	VIIRS Solar Diffuser Phi Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-055	VIIRS-SOLAR-DIFF-PROC-COEFFS-LUT	VIIRS Solar Diffuser Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-056	VIIRS-SOLAR-DIFF-REFL-LUT	VIIRS Solar Diffuser Reflectance Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-057	VIIRS-SOLAR-DIFF-RVS-LUT	VIIRS Solar Diffuser RVS Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-058	VIIRS-SOLAR-DIFF-THERM-COEFFS-LUT	VIIRS Solar Diffuser Thermal Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-LM0233-059	VIIRS-SOLAR-DIFF-AGG-HISTORY-AUX	VIIRS Solar Diffuser Aggregation PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-060	VIIRS-SDR-GEO-MOD-PARAM-LUT	VIIRS SDR Moderate Geolocation Processing Coefficients	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-061	CmnGeo-SAA-AC-Int	VIIRS SAA PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-062	VIIRS-AOT-CLIMO-LUT	VIIRS AOT Climatology PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-063	VIIRS-COP-SURFACE-LUT	VIIRS COP Surface PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-064	VIIRS-SR-AOTValues-LUT	VIIRS Surface Reflectance AOT Values PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-065	VIIRS-SR-AtmReflect-LUT	VIIRS Surface Reflectance ATMS Reflectance PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-066	VIIRS-SR-DownTrans-LUT	VIIRS Surface Reflectance Down Trans PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-067	VIIRS-SR-IncScatAngles-LUT	VIIRS Surface Reflectance Inc Scattering Angles PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-068	VIIRS-SR-SatZenAngles-LUT	VIIRS Surface Reflectance SZA Angles PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-069	VIIRS-SR-ScatAngDims-LUT	VIIRS Surface Reflectance Scattering Angle Dimensions PC	Centrals, CLASS, ISF	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-LM0233-070	VIIRS-SR-SolZenAngles-LUT	VIIRS Surface Reflectance Solsen Angles PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-071	VIIRS-SR-SphAlb-LUT	VIIRS Surface Reflectance SPH Albedo PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-072	VIIRS-SCD-SNOW-COVER-QUAL-LUT	VIIRS SCD Snow Cover Quality PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-073	VIIRS-SCD-SNOW-COVER-LUT	VIIRS SCD Snow Cover PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0233-074	VIIRS-Grid-SIN-Tiles-Earth-Land-LUT	VIIRS Gridded SIN Tiles Earth Land PC	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0240-020	OMPS-TC-TIMING-PATTERN-GND-PI	OMPS TC Timing Pattern Table - Ground	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0240-021	OMPS-TC-LINEARITY-GND-PI	OMPS TC Linearity Table - Ground	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0240-022	OMPS-TC-EV-SAMPLE-GND-PI	OMPS TC Earth View Sample Table - Ground	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0240-023	OMPS-TC-MACROTABLE-GND-PI	OMPS TC Macropixel Table - Ground	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0240-024	OMPS-TC-LED-SAMPLE-GND-PI	OMPS TC LED Sample Table - Ground	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0240-025	OMPS-TC-SOLAR-CAL-SAMPLE-GND-PI	OMPS TC Solar Sample Table – Ground	Centrals, CLASS, ISF	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-LM0240-026	OMPS-TC-WAVELENGTH-GND-PI	OMPS TC Wavelengths Table	Centrals, CLASS, ISF	NPP/NPOESS
NP_NU-LM0240-027	OMPS-TC-CF-EARTH-GND-PI	OMPS TC Calibration Factors for Earth Scene Spatial Cells	Centrals, CLASS, ISF	NPP/NPOESS

Table B-5, Auxiliary Data Format Identifiers – Automated Processing Coefficients

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-LM0130-000	CrIS-Correct-Matrix-AUX	CrIS Correction Matrix Processing Coefficients	Centrals, ISF, CLASS, NSIPS	NPP/NPOESS
NP_NU-LM0240-000	OMPS-TC-DARKS-AP	OMPS TC Detector Dark Signal Automatic Processing Coefficients	Centrals, ISF, CLASS, NSIPS	NPP/NPOESS
NP_NU-LM0240-001	OMPS-TC-SAA-DARKS-AP	OMPS TC SAA Dark Signal Automatic Processing Coefficients	Centrals, ISF, CLASS, NSIPS	NPP/NPOESS
NP_NU-LM0240-002	OMPS-TC-BIAS-AP	OMPS TC Electronic Offset in counts	Centrals, ISF, CLASS, NSIPS	NPP/NPOESS
NP_NU-LM0240-003	OMPS-TC-FLAT-HISTORY-AP	OMPS TC Flat Fields History Automatic Processing Coefficients	Centrals, ISF, CLASS, NSIPS	NPP/NPOESS
NP_NU-LM0240-004	OMPS-TC-WAVEMON-AP	OMPS TC Bandcenter Wavelength Shifts	Centrals, ISF, CLASS, NSIPS	NPP/NPOESS
NP_NU-LM0240-005	OMPS-TC-CF-SOLAR-AP	OMPS TC Radiometric Calibration Factors for Solar Illuminated Pixels	Centrals, ISF, CLASS, NSIPS	NPP/NPOESS
NP_NU-LM0240-006	OMPS-TC-FLUX-AP	OMPS TC Solar Signal Corrected for Detector Spectral Shifts	Centrals, ISF, CLASS, NSIPS	NPP/NPOESS
NP_NU-LM0240-007	OMPS-TC-RAW-FLUX-AP	OMPS TC Solar Signal Corrected for Detector	Centrals, ISF, CLASS, NSIPS	NPP/NPOESS

Table B-6, Auxiliary Data Format Identifiers – Look Up Tables

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-LM0030-000	CrIMSS-CHAN-SEL-LUT	CrIMSS Channel Selection Look Up Table (LUT)	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0030-001	CrIMSS-IR-OSS-COEFF-LUT	CrIMSS Infrared Optimal Spectral Selection (OSS) Coefficients LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0030-002	CrIMSS-MW-ABSORP-COEFF-LUT	CrIMSS Microwave Absorption Coefficients LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0030-004	CrIMSS-MW-OSS-COEFF-LUT	CrIMSS Microwave OSS Coefficients LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0030-005	CrIMSS-SFC-EMIS-LUT	CrIMSS Surface Emissivity LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0030-006	CrIMSS-IR-ABSORP-COEFF-LUT	CrIMSS Infrared Absorption Coefficients LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-000	VIIRS-AOT-LUT	VIIRS Aerosol Optical Thickness (AOT) LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-001	VIIRS-AOT-Sunglint-LUT	VIIRS AOT Sunglint LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-002	VIIRS-ICE-Cld-LUT	VIIRS Cloud Optical Properties (COP) Ice Cloud LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-003	VIIRS-Water-Cld-LUT	VIIRS COP Water Cloud LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-004	VIIRS-CTP-COT-LUT	VIIRS Cloud Top Parameters LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-005	VIIRS-CTP-MSC-LUT	VIIRS Cloud Top Parameters Multiple Scattering Correction LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-006	VIIRS-CTP-OSS-OD-LUT	VIIRS OSS Optical Depth LUT	Centrals, ISF, CLASS	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-LM0040-007	VIIRS-CTP-OSS-SEL-LUT	VIIRS OSS Selection LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-008	VIIRS-ATMOS-BROAD-TRANSMIT-LUT	VIIRS Broadband Atmospheric Transmittance LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-009	VIIRS-ICE-REFLECTANCE-LUT	VIIRS Top of Atmosphere (TOA) Sea Ice Reflectance LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-010	VIIRS-OCC-AEROCOEFFS-LUT	VIIRS Ocean Color/Chlorophyll (OCC) Aerosol Coefficients LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-011	VIIRS-OCC-AOPROP-LUT	VIIRS OCC Aerosol Optical Properties LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-012	VIIRS-OCC-DIFFUSE-LUT	VIIRS OCC Diffuse Transmittance LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-013	VIIRS-OCC-Rayleigh-LUT	VIIRS OCC Rayleigh Scattering LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-014	VIIRS-LSA-BPSA-LUT	VIIRS Surface Albedo (SA) Fraction of Diffuse Skylight LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-015	VIIRS-LSA-BPSA-REGRESS-LUT	VIIRS SA Fraction of Diffuse Skylight Regression Coefficients LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0040-016	VIIRS-LSA-DPSA-COEFF-LUT	VIIRS SA Coefficients LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0233-007	VIIRS-SNOWDEPTH-THICKNESS-LUT	VIIRS Snow Depth/Ice Thickness Climatology LUT	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0240-008	OMPS-TC-CALCONST-LUT	OMPS TC Calibration Constants Table	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0240-009	OMPS-TC-FAM-LUT	OMPS TC Field Angles Map	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0240-010	OMPS-TC-OSOL-LUT	OMPS TC Observed Solar Irradiances Table	Centrals, ISF, CLASS	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
NP_NU-LM0240-011	OMPS-TC-PSOL-LUT	OMPS TC Predicted Solar Irradiances and Wavelengths Table	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0240-012	OMPS-TC-SIRR-LUT	OMPS TC Solar Irradiance and Wavelengths Table of Calibration Standard	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0240-013	OMPS-TC-SRF-LUT	OMPS TC Spectral Response Functions table	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0240-014	OMPS-TC-WFP-LUT	OMPS TC Wavelength Fitting Parameters Table	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0240-015	OMPS-TC-SIRR-CC-LUT	OMPS TC Solar Irradiance Calibration Constants Table	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0240-017	OMPS-TC-BRDFGRIDS-LUT	OMPS TC BRDF GRIDS Table – Diffuser Irradiance Goniometry	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0240-018	OMPS-TC-LSHF-LUT	OMPS TC Line Shifts Table	Centrals, ISF, CLASS	NPP/NPOESS
NP_NU-LM0240-019	OMPS-TC-SRPM-LUT	OMPS TC Spectral Registration Pixel Map Table	Centrals, ISF, CLASS	NPP/NPOESS

Table B-7, Auxiliary Data Format Identifiers – Data Quality Threshold Tables

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
DP_NU-LM2030-000	VIIRS-M10-SDR-DQTT	VIIRS Moderate Band 10 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M11-SDR-DQTT	VIIRS Moderate Band 11 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M12-SDR-DQTT	VIIRS Moderate Band 12 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M13-SDR-DQTT	VIIRS Moderate Band 13 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M14-SDR-DQTT	VIIRS Moderate Band 14 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M15-SDR-DQTT	VIIRS Moderate Band 15 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M16-SDR-DQTT	VIIRS Moderate Band 16 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M1-SDR-DQTT	VIIRS Moderate Band 01 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M2-SDR-DQTT	VIIRS Moderate Band 02 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M3-SDR-DQTT	VIIRS Moderate Band 03 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M4-SDR-DQTT	VIIRS Moderate Band 04 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M5-SDR-DQTT	VIIRS Moderate Band 05 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M6-SDR-DQTT	VIIRS Moderate Band 06 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M7-SDR-DQTT	VIIRS Moderate Band 07 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-M8-SDR-DQTT	VIIRS Moderate Band 08 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	VIIRS-M9-SDR-DQTT	VIIRS Moderate Band 09 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-I1-SDR-DQTT	VIIRS Image Band 01 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-I2-SDR-DQTT	VIIRS Image Band 02 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-I3-SDR-DQTT	VIIRS Image Band 03 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-I4-SDR-DQTT	VIIRS Image Band 04 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-I5-SDR-DQTT	VIIRS Image Band 05 SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	ATMS-SDR-DQTT	ATMS SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	ATMS-REMAP-SDR-DQTT	ATMS Re-Map SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	ATMS-TDR-DQTT	ATMS SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	CrIS-SDR-DQTT	CrIS SDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	CrIS-IR-OZ-Prof-IP-DQTT	CrIS IR Ozone IP DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	CrIMSS-EDR-DQTT	CrIMSS AVP EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	OMPS-TC-EDR-DQTT	OMPS TC EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	OMPS-NP-IP-DQTT	OMPS NP IP DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-NCC-EDR-DQTT	VIIRS EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-I1-IMG-EDR-DQTT	VIIRS Imagery Band 1 EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	VIIRS-I2-IMG-EDR-DQTT	VIIRS Imagery Band 2 EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-I3-IMG-EDR-DQTT	VIIRS Imagery Band 3 EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-I4-IMG-EDR-DQTT	VIIRS Imagery Band 4 EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-I5-IMG-EDR-DQTT	VIIRS Imagery Band 5 EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-SST-EDR-DQTT	VIIRS SST EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-AOT-EDR-DQTT	VIIRS AOT EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-APSP-EDR-DQTT	VIIRS APSP EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-SusMat-EDR-DQTT	VIIRS Suspended Matter EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-CBH-EDR-DQTT	VIIRS CBH EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-CCL-EDR-DQTT	VIIRS CCL EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-CEPS-EDR-DQTT	VIIRS CEPS EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-COT-EDR-DQTT	VIIRS COT EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-CM-IP-DQTT	VIIRS Cloud Mask IP DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-CTH-EDR-DQTT	VIIRS CTH EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-CTP-EDR-DQTT	VIIRS CTP EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
	VIIRS-CTT-EDR-DQTT	VIIRS CTT EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-SA-EDR-DQTT	VIIRS Surface Albedo EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-LST-EDR-DQTT	VIIRS LST EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-VI-EDR-DQTT	VIIRS VI EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-SCD-BINARY-SNOW-FRAC-EDR-DQTT	VIIRS Snow Cover/Depth Binary Fraction EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-SCD-BINARY-SNOW-MAP-EDR-DQTT	VIIRS Snow Cover/Depth Binary Map EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-ST-EDR-DQTT	VIIRS Surface Type EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-AF-EDR-DQTT	VIIRS Active Fires EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-IST-EDR-DQTT	VIIRS IST EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-NHF-EDR-DQTT	VIIRS NHF EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-OCC-EDR-DQTT	VIIRS OCC EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS
	VIIRS-SIC-EDR-DQTT	VIIRS SIC EDR DQTT	Centrals, ISF, CLASS	NPP/NPOESS

Table B-8, Dynamic Ancillary Identifiers and Applicable Values

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
AN_NP-L10000-030	NCEP-GFS-03HR-ANC	National Centers for Environmental Prediction (NCEP) Global Forecast System (GFS) 3 Hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10000-060	NCEP-GFS-06HR-ANC	NCEP GFS 6 Hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10000-090	NCEP-GFS-09HR-ANC	NCEP GFS 9 Hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10000-120	NCEP-GFS-12HR-ANC	NCEP GFS 12 Hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10000-150	NCEP-GFS-15HR-ANC	NCEP GFS 15 Hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10000-180	NCEP-GFS-18HR-ANC	NCEP GFS 18 Hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10000-210	NCEP-GFS-21HR-ANC	NCEP GFS 21 Hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10000-240	NCEP-GFS-24HR-ANC	NCEP GFS 24 Hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L20000-030	NOGAPS-03HR-ANC	Navy Operational Global Analysis and Prediction System (NOGAPS) 3-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L20000-060	NOGAPS-06HR-ANC	NOGAPS 6-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L20000-090	NOGAPS-09HR-ANC	NOGAPS 9-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L20000-120	NOGAPS-12HR-ANC	NOGAPS 12-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L20000-150	NOGAPS-15HR-ANC	NOGAPS 15-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
AN_NP-L20000-180	NOGAPS-18HR-ANC	NOGAPS 18-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L20000-210	NOGAPS-21HR-ANC	NOGAPS 21-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L20000-240	NOGAPS-24HR-ANC	NOGAPS 24-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10015-030	NAAPS-03HR-ANC	Navy Aerosol Analysis and Prediction System (NAAPS) 3-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10015-060	NAAPS-06HR-ANC	NAAPS 6-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10015-090	NAAPS-09HR-ANC	NAAPS 9-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10015-120	NAAPS-12HR-ANC	NAAPS 12-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10015-150	NAAPS-15HR-ANC	NAAPS 15-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10015-180	NAAPS-18HR-ANC	NAAPS 18-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10015-210	NAAPS-21HR-ANC	NAAPS 21-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10015-240	NAAPS-24HR-ANC	NAAPS 24-hour Forecast File	Centrals, SDS (NPP Only), CLASS	NPP/NPOESS
AN_NP-L10330-003	USNO-PolarWander-UT1-ANC	Earth Orientation - Finals 2000A	Centrals, SDS(NPP Only), CLASS	NPP/NPOESS

Table B-9, Static Ancillary Identifiers and Applicable Values

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
AN_NP-L10010-002	AOT-ANC	Aerosol Optical Thickness (AOT) Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L10020-001	NASA-Code916-ANC	NASA Code 916 Cloud Top Pressure	Centrals, CLASS	NPP/NPOESS
AN_NP-L10120-001	Nitr-Depl-Temp-ANC	Nitrate Depletion Temperature	Centrals, CLASS	NPP/NPOESS
AN_NP-L10135-001	Fouin-Kelder-Cl-ANC	Ozone Profile: Fortuin & Kelder Climatology, 1998	Centrals, CLASS	NPP/NPOESS
AN_NP-L20230-004	TOMS-Temp-Clima-ANC	TOMS V8 Temperature at Pressure Layers Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L10190-001	SST-Cl-ANC	Sea Surface Temperature Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L20210-002	Surf-Press-TUG87-Cl-ANC	TUG87 – Surface Pressure Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L10220-001	Surf-Refl-ANC	Surface Reflectivity	Centrals, CLASS	NPP/NPOESS
AN_NP-L10180-001	South-Atl-Anomaly-ANC	South Atlantic Anomaly	Centrals, CLASS	NPP/NPOESS
AN_NP-L20310-002	ISO-Level-Temp-Cl-ANC	Isobaric Level Temperature Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L20320-002	Tropo-Geo-Height-Cl-ANC	Tropopause Geopotential Height Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L20130-003	Ozone-Cl-ANC	Ozone Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L20250-002	Sur-Wind-Cl-ANC	Surface Wind Climatology	Centrals, CLASS	NPP/NPOESS

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
AN_NP-L20230-002	Temp-Surf-Cl-ANC	Temperature at Surface Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L20230-003	Sur-Temp-Cl-ANC	Surface (Skin) Temperature Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L20210-003	Surf-Press-Cl-ANC	Surface Pressure Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L20290-002	Prec-Water-Cl-ANC	Precipitable Water Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L20200-002	Sp-Hum-Sur-Cl-ANC	Specific Humidity at Surface Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L20090-002	Geo-Height-PL-Cl-ANC	Geopotential Height at Pressure Levels Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L20110-002	SPFH-Hum-PL-Cl-ANC	Specific Humidity at Pressure Levels Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L20080-002	Geo-Height-Sur-Cl-ANC	Geopotential Height of Surface Climatology	Centrals, CLASS	NPP/NPOESS
AN_NP-L10330-001	Leap-Sec-ANC	Leap Seconds	Centrals, CLASS	NPP/NPOESS
AN_NP-L10340-001	Planet-Eph-ANC	Planetary Ephemeris	Centrals, CLASS	NPP/NPOESS
AN_NP-L10360-001	Glo-OCC-ANC	Global Ocean Color Chlorophyll	Centrals, CLASS	NPP/NPOESS
AN_NP-L10100-003	Terrain-Eco-ANC-Tile	IDPS Terrain Database Tile	Centrals, CLASS	NPP/NPOESS

Table B-10, Quality Assurance (QA) Truth Data Identifiers and Applicable Values

Data Mnemonic	Collection Short Name	Definition or Collection Long Name	Receiver	Effectivity
AN_NP-L40110-001	ACARS-ANC	Aircraft Communications Addressing and Reporting System (ACARS)	DQM	NPP/NPOESS
AN_NP-L40010-001	AERONET-ANC	Aerosol Robotic Network (AERONET)	DQM	NPP/NPOESS
AN_NP-L40020-001	ASOS-ANC	Automated Surface Observing System	DQM	NPP/NPOESS
AN_NP-L40210-001	BSRN-ANC	Baseline Surface Radiation Network	DQM	NPP/NPOESS
AN_NP-L40150-001	Ozone-Sonde-ANC	Ozone Sonde Network	DQM	NPP/NPOESS
AN_NP-L40170-001	RAOB-ANC	Radiosonde Observation	DQM	NPP/NPOESS
AN_NP-L40130-001	Ship-Buoy-ANC	Ship/Buoy	DQM	NPP/NPOESS
AN_NP-L40000-001	GDAS-ANC	Global Data Assimilation System (GDAS)	DQM	NPP/NPOESS
AN_NP-L40350-001	AMSU-A-ANC	AMSU-A Brightness Temperature	DQM	NPP/NPOESS
AN_NP-L40020-002	MODIS-CloudMask-ANC	MODIS/Terra Cloud Mask Product	DQM	NPP/NPOESS
AN_NP-L40360-001	MODIS-Geolocation-ANC	MODIS/Terra Geolocation Product	DQM	NPP/NPOESS
AN_NP-L40190-002	MODIS-SST-ANC	MODIS/Terra Sea Surface Temperature Product	DQM	NPP/NPOESS

APPENDIX C ACRONYM LIST

Table C-1, Acronym List

The acronyms contained in this appendix are specific to this document. All other acronyms are contained in the NPOESS Acronyms list.

Acronym	Definition
A&O	Acquisitions & Operations Contractor
ACARS	Aircraft Addressing and Reporting System
AEROCAN	Aerosol Canada
AERONET	Aerosol Robotic Network
AMSU-A	Advanced Microwave Sounding Unit A
ASOS	Automated Surface Observing System
BSRN	Baseline Surface Radiation Network
CDAS	Climate Data Assimilation System
CDDR	Consolidated Data Delivery Report
CDFCB-X	Common Data Format Control Book – External
CIS	Common Interfaces and Services
CRC-32	Cyclic Redundancy Check – 32 bit
CSN	Collection Short Name
DDAN	Deliverable Data Automated Notification
DDR	Data Delivery Reports
DN	Digital Number
DQE	Data Quality Engineer
DQTT	Data Quality Threshold Tables
EDR/IR	Environmental Data Records Interdependency Report
EOC	End of Contact
ETH	Swiss Federal Institute of Technology
FSL	Forecast Systems Laboratory
FW	Firewall
GACP	Global Aerosol Climatology Project
GCS	Ground Contact Schedule
GDAS	Global Data Assimilation System
GFS	Global Forecast System
HDF4	Hierarchical Data Format Release 4
HDF5	Hierarchical Data Format, Release 5
HDF-EOS	Data Format – Earth Observing System
IAGA	International Association of Geomagnetism and Aeronomy
IAU	International Astronomical Unition
IERS	International Earth Rotation Service
IDFCB	Internal Data Format Control Book
IGRF	International Geomagnetic Reference Field
IET	IDPS Epoch Time
ISCCP	International Satellite Cloud Climatology Project

Acronym	Definition
KSAT	Kongsberg Satellite Services
MD5	Message Digest 5
MSD	Mission Support Data
MSL	Mean Sea Level
NAAPS	Navy Aerosol Analysis and Prediction System
NDBC	National Data Buoy Center
NDT	Nitrate Depletion Temperature
NGA	National Geospatial Agency
NISE	Near Real-Time Ice and Snow Extent
NODC	National Oceanographic Data Center
OCL	Ocean Climate Laboratory
PDS	Product Definition Section
PHOTONS	Photométrie pour le Traitement Opérationnel de Normalisation Satellitaire
PTM	Processed Telemetry
RAOB	Radiosonde Observation
RTLog	Real Time Log
SDS	Science Data Segment
SGP	Simplified General Perturbation
SRTM30	Shuttle Radar Topography Mission 30
TAI	Temps Atomique International
TOC	Telecommunication Operations Center
UI	User Interface
VDD	Version Description Document
VSA	Vector Signal Analyzer
VPF	Vector Product Format
W3C	World Wide Web Consortium
WOA94	World Ocean Atlas 1994
WVS	World Vector Shoreline

APPENDIX D SPACECRAFT, SIMULATOR, AND SENSOR NAMES

The following tables provide the standard naming conventions for the Spacecraft, Simulator, and Sensor Names used for designation in logs, GUIs, and reference documents.

Table D-1, Spacecraft Names

Spacecraft Alphanumeric	State	Spacecraft Name
NPP	1 and 2	NPP
N01	2 and 3	NPOESS Launch 1
N02	3	NPOESS Launch 2

Table D-2, Simulator Names

Simulator Alphanumeric	Simulation Name
SPP	NPP Simulation
S01	NPOESS Simulation for N01
S02	NPOESS Simulation for N02

Table D-3, Sensor Names

Sensor Name	Sensor Alphanumeric	Effectivity
Advanced Data Collection System	A-DCS	NPOESS
Advanced Technology Microwave Sounder	ATMS	NPP and NPOESS
Clouds and Earth Radiant Energy System	CERES	NPP
Cross-Track Infrared Sounder	CrIS	NPP and NPOESS
Ozone Mapping and Profiler Suite – Total Column	OMPS-TC	NPP and NPOESS
Ozone Mapping and Profiler Suite – Nadir Profile	OMPS-NP	NPP and NPOESS
Ozone Mapping and Profiler Suite – Limb Profile	OMPS-LP	NPP
Ozone Mapping and Profiler Suite (Integrated Sensor)	OMPS	NPP and NPOESS
Search and Rescue Processor	SARP	NPOESS
Search and Rescue Repeater	SARR	NPOESS
Space Environment Monitor	SEM	NPOESS
Visible/Infrared Imager/Radiometer Suite	VIIRS	NPP and NPOESS

Table D-4, Spacecraft to Sensor Mapping

Spacecraft	Sensors
NPP – 1330 orbit	ATMS, CrIS, CERES, OMPS, OMPS-TC, OMPS-NP, OMPS-LP, VIIRS
N01 – 1330 orbit (C1)	A-DCS (GFE), ATMS, CrIS, OMPS, OMPS-TC, OMPS-NP, SARP (GFE), SARR (GFE), SEM(GFE), VIIRS

Spacecraft	Sensors
N02 – 1730 orbit (C2)	A-DCS (GFE), SARP (GFE), SARR (GFE) , VIIRS

APPENDIX E SENSOR GRANULE SIZES

NPP granule sizes are applicable to all NPP Data Products. Table E-1, NPP Sensor Granule Sizes, annotates the nominal granule size and scan characteristics of each NPP Data Product. Since the actual sizes may vary, refer to the HDF5 metadata value in the respective NPP data product. Note that the term “observations” refers to sensor measurements that have not been remapped or aggregated. Therefore, there is not necessarily a one-to-one correlation between the pixels or cells per scan in this table and all Environmental Data Records (EDR). The VIIRS definition of observation in this table is actually a pixel, which is an aggregation of detector samples (a sample being the output of one detector at a given instant of time). The ATMS definition of an observation is a single Earth scene (22 beam locations). The CrIS definition of an observation is a single Field Of Regard (FOR). For OMPS, Total Column (TC) and Nadir Profile (NP) specifically, the observation is an Integrated Field Of View (IFOV) and pixel for Calibration SDRs.

Table E-1, NPP Sensor Granule Sizes

Product Type	Approximate Duration (seconds)	Scans (or swaths) per Granule	Geolocations per Observation	Observations per Scan (or Swath CrossTrack)
VIIRS				
Moderate Band	86	48	16	3200
Image Band			32	6400
Day/Night Band			16	4064
CrIS				
Science Data	32	4	9	30
ATMS				
Science Data	32	12	22	96
Remapped to CrIS	32	4 (matches CrIS)	1 (merged)	30 (matches CrIS)
CrIMSS				
Science Data	32	4	1	30

Product Type	Approximate Duration (seconds)	Scans (or swaths) per Granule	Geolocations per Observation	Observations per Scan (or Swath CrossTrack)
OMPS				
Total Column (TC)	38	5	1	35
TC Calibration	1200	Varies	740	N/A
Nadir Profile (NP)	38	1	1	1
NP Calibration	1200	Varies	1	N/A
Limb Profile (LP)	38	2 Long Integrations 2 Short Integrations (4 total Integrations per granule)	N/A (RDRs are not Geolocated)	N/A
CERES				
Science RDR	660	100	N/A	N/A

* CERES granule sizes are provided for RDRs.

NPOESS sensor granule sizes are applicable to all NPP/NPOESS Data Products produced during this state. Unless specified, all NPP granule sizes, as listed in Table E-1, NPP Science Data Granule Sizes, apply to NPP/NPOESS Data Products. Table E-2, NPOESS Science Data Granule Sizes, annotates the nominal granule sizes of each NPOESS Data Product produced at this time. Since the actual sizes may vary, refer to the HDF5 metadata value in the respective NPOESS data product.

Table E-2, NPOESS Sensor Granule Sizes

EDFCB1-TBD-8777

Product Type	Duration (seconds)	Scans (or swaths) / Granule	Geolocation / Observation	Observations / Scan (or Swath CrossTrack)
A-DCS				
SARR				

SARP				

APPENDIX F NPP/NPOESS DATA PRODUCT STYLE GUIDE MATRIX

Table F-1, NPP/NPOESS Data Product Style Guide Matrix

SDR/TDR/IP/ARP/EDR	Style Guide Designation	Primary Sensor
Atmospheric Vertical Profile EDR	Swath	CrIMSS
NCC Imagery EDR	Swath	VIIRS
I-Band Imagery EDR	Swath	VIIRS
M-Band Imagery EDR	Swath	VIIRS
Sea Surface Temperature EDR	Swath	VIIRS
Aerosol Optical Thickness EDR	Swath	VIIRS
Aerosol Particle Size Parameter EDR	Swath	VIIRS
Ozone Total Column EDR	Swath	OMPS
Nadir Profile IP	Swath	OMPS
Suspended Matter EDR	Swath	VIIRS
Cloud Base Height EDR	Swath	VIIRS
Cloud Cover/Layers EDR	Swath	VIIRS
Cloud Effective Particle Size EDR	Swath	VIIRS
Cloud Optical Thickness EDR	Swath	VIIRS
Cloud Top Height EDR	Swath	VIIRS
Cloud Top Pressure EDR	Swath	VIIRS
Cloud Top Temperature EDR	Swath	VIIRS
Surface Albedo EDR	Swath	VIIRS
Active Fires ARP	Sparse Array	VIIRS
Land Surface Temperature EDR	Swath	VIIRS
Snow Cover/Depth EDR	Swath	VIIRS
Surface Type EDR	Swath	VIIRS
Vegetation Index EDR	Swath	VIIRS
Ice Surface Temperature EDR	Swath	VIIRS
Net Heat Flux EDR	Swath	VIIRS
Ocean Color/Chlorophyll EDR	Swath	VIIRS
Sea Ice Characterization EDR	Swath	VIIRS
Cloud Mask IP	Swath	VIIRS
Quarterly Surface Type IP	Grid	VIIRS
Infra-red Ozone Profile IP	Swath	CrIS
VIIRS DNB SDR	Swath	VIIRS

SDR/TDR/IP/ARP/EDR	Style Guide Designation	Primary Sensor
VIIRS I-Band Imagery SDR	Swath	VIIRS
VIIRS M-Band Imagery SDR	Swath	VIIRS
CrIS SDR	Swath	CrIS
ATMS SDR	Swath	ATMS
ATMS Remapped to CrIS SDR	Swath	ATMS
OMPS Nadir Profile SDR	Swath	OMPS
OMPS Total Column SDR	Swath	OMPS
ATMS TDR	Swath	ATMS

APPENDIX G NPP/NPOESS DATA PRODUCT GEOLOCATION MAPPING

The following table provides the mapping of NPP/NPOESS Data Products to their corresponding Geolocation data. All SDRs and TDRs are produced with geolocation data that is referenced to the ellipsoid. Table G-1, Sensor Data Record Geolocation Mapping, and Table G-2, Temperature Data Record Geolocation Mapping, provide a column of the EDR Delivered with Terrain Corrected Geolocation. This column is indicates the EDR data products that are delivered with the Terrain Corrected version of the associated SDR/TDR geolocation data.

Table G-1, Sensor Data Record Geolocation Mapping

SDR Collection Short Name	SDR Definition and/or Collection Long Name	GEO Collection Short Name	GEO Definition and/or Collection Long Name	EDR Delivered with Terrain Corrected Geolocation	Effectivity
ADCS-SDR	A-DCS SDR	EDFCB1-TBD-9970	EDFCB1-TBD-9970	EDFCB1-TBD-9970	NPOESS
ATMS-REMAP-SDR	ATMS Remap SDR	ATMS-REMAP-SDR-GEO	ATMS Remapped to CrIS SDR Ellipsoid Geolocation Data	CrIMSS EDR	NPP/NPOESS
ATMS-SDR	ATMS SDR	ATMS-SDR-GEO	ATMS SDR Ellipsoid Geolocation Data	Not Produced	NPP/NPOESS
CrIS-SDR	CrIS SDR, LWIR, MWIR, and SWIR bands	CrIS-SDR-GEO	CrIS SDR Ellipsoid Geolocation Data	Not Produced	NPP/NPOESS
OMPS-NP-SDR	OMPS Nadir Profile SDR	OMPS-NP-GEO	OMPS Nadir Profile Ellipsoid Geolocation Data	Not Produced	NPP/NPOESS
OMPS-TC-SDR	OMPS Total Column SDR	OMPS-TC-GEO	OMPS Total Column Ellipsoid Geolocation Data	Not Produced	NPP/NPOESS
OMPS-TC-Cal-SDR	OMPS Total Column Calibration SDR	OMPS-TC-Cal -GEO	OMPS Total Column Calibration Ellipsoid Geolocation Data	Not Produced	NPP/NPOESS

SDR Collection Short Name	SDR Definition and/or Collection Long Name	GEO Collection Short Name	GEO Definition and/or Collection Long Name	EDR Delivered with Terrain Corrected Geolocation	Effectivity
VIIRS-DNB-SDR	VIIRS Day Night Band SDR	VIIRS-DNB-GEO	VIIRS Day Night Band Ellipsoid Geolocation Data	Not Produced	NPP/NPOESS
VIIRS-I1-SDR	VIIRS Imagery Band 01 SDR	VIIRS-IMG-GEO	VIIRS Image Bands Ellipsoid Geolocation Data	Vegetation Index EDR Snow Cover Binary Map EDR	NPP/NPOESS
VIIRS-I2-SDR	VIIRS Imagery Band 02 SDR	VIIRS-IMG-GEO	VIIRS Image Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-I3-SDR	VIIRS Imagery Band 03 SDR	VIIRS-IMG-GEO	VIIRS Image Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-I4-SDR	VIIRS Imagery Band 04 SDR	VIIRS-IMG-GEO	VIIRS Image Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-I5-SDR	VIIRS Imagery Band 05 SDR	VIIRS-IMG-GEO	VIIRS Image Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M1-SDR	VIIRS Moderate Band 01 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data	SST EDR AOT EDR (ocean lat/long) Surface Albedo EDR LST EDR IST EDR Snow Cover Binary Fraction EDR OCC EDR	NPP/NPOESS
VIIRS-M2-SDR	VIIRS Moderate Band 02 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M3-SDR	VIIRS Moderate Band 03 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M4-SDR	VIIRS Moderate Band 04 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M5-SDR	VIIRS Moderate Band 05 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M6-SDR	VIIRS Moderate Band 06 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M7-SDR	VIIRS Moderate Band 07 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS

SDR Collection Short Name	SDR Definition and/or Collection Long Name	GEO Collection Short Name	GEO Definition and/or Collection Long Name	EDR Delivered with Terrain Corrected Geolocation	Effectivity
VIIRS-M8-SDR	VIIRS Moderate Band 08 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M9-SDR	VIIRS Moderate Band 09 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M10-SDR	VIIRS Moderate Band 10 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M11-SDR	VIIRS Moderate Band 11 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M12-SDR	VIIRS Moderate Band 12 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M13-SDR	VIIRS Moderate Band 13 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M14-SDR	VIIRS Moderate Band 14 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M15-SDR	VIIRS Moderate Band 15 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS
VIIRS-M16-SDR	VIIRS Moderate Band 16 SDR	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data		NPP/NPOESS

Table G-3, Temperature Data Record Geolocation Mapping

TDR Collection Short Name	TDR Definition and/or Collection Long Name	GEO Collection Short Name	GEO Definition and/or Collection Long Name	EDR Delivered with Terrain Corrected Geolocation	Effectivity
ATMS-TDR	ATMS Temperature Data Record	ATMS-SDR-GEO	ATMS SDR Ellipsoid Geolocation Data	Not Produced	NPP/NPOESS

Table G-4, Environmental Data Record Geolocation Mapping

EDR Collection Short Name	EDR Definition and/or Collection Long Name	GEO Collection Short Name	GEO Definition and/or Collection Long Name	Effectivity
CrIMSS-EDR	CrIMSS Atmospheric Vertical Profile Environment Data Record (EDR)	CrIMSS-EDR-GEO-TC	CrIMSS SDR Ellipsoid Geolocation Data (determined from CrIS SDR Geolocation) – Terrain Corrected	NPP/NPOESS
OMPS-TC-EDR	OMPS Ozone Total Column EDR	OMPS-TC-GEO	OMPS Total Column Ellipsoid Geolocation Data	NPP/NPOESS
VIIRS-Aeros-EDR	VIIRS Aerosol Optical Thickness EDR and VIIRS Aerosol Particle Size Parameter EDR	VIIRS-Aeros-EDR-GEO	VIIRS Aerosol Ellipsoid Geolocation Data – Terrain Corrected	NPP/NPOESS
VIIRS-CBH-EDR	VIIRS Cloud Base Height EDR	VIIRS-CLD-AGG-GEO	VIIRS Cloud Aggregated Ellipsoid Geolocation Data	NPP/NPOESS
VIIRS-CCL-EDR	VIIRS Cloud Cover Layers EDR	VIIRS-CLD-AGG-GEO	VIIRS Cloud Aggregated Ellipsoid Geolocation Data	NPP/NPOESS
VIIRS-CEPS-EDR	VIIRS Cloud Effective Particle Size EDR	VIIRS-CLD-AGG-GEO	VIIRS Cloud Aggregated Ellipsoid Geolocation Data	NPP/NPOESS
VIIRS-COT-EDR	VIIRS Cloud Optical Thickness EDR	VIIRS-CLD-AGG-GEO	VIIRS Cloud Aggregated Ellipsoid Geolocation Data	NPP/NPOESS
VIIRS-CTH-EDR	VIIRS Cloud Top Height EDR	VIIRS-CLD-AGG-GEO	VIIRS Cloud Aggregated Ellipsoid Geolocation Data	NPP/NPOESS
VIIRS-CTP-EDR	VIIRS Cloud Top Pressure EDR	VIIRS-CLD-AGG-GEO	VIIRS Cloud Aggregated Ellipsoid Geolocation Data	NPP/NPOESS
VIIRS-CTT-EDR	VIIRS Cloud Top Temperature EDR	VIIRS-CLD-AGG-GEO	VIIRS Cloud Aggregated Ellipsoid Geolocation Data	NPP/NPOESS
VIIRS-I1-IMG-EDR	VIIRS Imagery Band 01 EDR	VIIRS-IMG-GTM-EDR-GEO	VIIRS Image Bands Ground Track Mercator (GTM) Geolocation Data	NPP/NPOESS
VIIRS-I2-IMG-EDR	VIIRS Imagery Band 02 EDR	VIIRS-IMG-GTM-EDR-GEO	VIIRS Image Bands GTM Geolocation Data	NPP/NPOESS

EDR Collection Short Name	EDR Definition and/or Collection Long Name	GEO Collection Short Name	GEO Definition and/or Collection Long Name	Effectivity
VIIRS-I3-IMG-EDR	VIIRS Imagery Band 03 EDR	VIIRS-IMG-GTM-EDR-GEO	VIIRS Image Bands GTM Geolocation Data	NPP/NPOESS
VIIRS-I4-IMG-EDR	VIIRS Imagery Band 04 EDR	VIIRS-IMG-GTM-EDR-GEO	VIIRS Image Bands GTM Geolocation Data	NPP/NPOESS
VIIRS-I5-IMG-EDR	VIIRS Imagery Band 05 EDR	VIIRS-IMG-GTM-EDR-GEO	VIIRS Image Bands GTM Geolocation Data	NPP/NPOESS
VIIRS-IST-EDR	VIIRS Ice Surface Temperature EDR	VIIRS-MOD-GEO-TC	VIIRS Moderate Bands Ellipsoid Geolocation Data – Terrain Corrected	NPP/NPOESS
VIIRS-LST-EDR	VIIRS Land Surface Temperature EDR	VIIRS-MOD-GEO-TC	VIIRS Moderate Bands Ellipsoid Geolocation Data – Terrain Corrected	NPP/NPOESS
VIIRS-M1ST-EDR	VIIRS 1st M Band Imagery EDR	VIIRS-MOD-GTM-EDR-GEO	VIIRS Moderate Bands GTM Geolocation Data	NPP/NPOESS
VIIRS-M2ND-EDR	VIIRS 2nd M Band Imagery EDR	VIIRS-MOD-GTM-EDR-GEO	VIIRS Moderate Bands GTM Geolocation Data	NPP/NPOESS
VIIRS-M3RD-EDR	VIIRS 3rd M Band Imagery EDR	VIIRS-MOD-GTM-EDR-GEO	VIIRS Moderate Bands GTM Geolocation Data	NPP/NPOESS
VIIRS-M4TH-EDR	VIIRS 4th M Band Imagery EDR	VIIRS-MOD-GTM-EDR-GEO	VIIRS Moderate Bands GTM Geolocation Data	NPP/NPOESS
VIIRS-M5TH-EDR	VIIRS 5th M Band Imagery EDR	VIIRS-MOD-GTM-EDR-GEO	VIIRS Moderate Bands GTM Geolocation Data	NPP/NPOESS
VIIRS-M6TH-EDR	VIIRS 6th M Band Imagery EDR	VIIRS-MOD-GTM-EDR-GEO	VIIRS Moderate Bands GTM Geolocation Data	NPP/NPOESS
VIIRS-NCC-EDR	VIIRS Near Constant Contrast Imagery EDR	VIIRS-NCC-EDR-GEO	VIIRS Near Constant Contrast Geolocation Data.- Terrain Corrected	NPP/NPOESS

EDR Collection Short Name	EDR Definition and/or Collection Long Name	GEO Collection Short Name	GEO Definition and/or Collection Long Name	Effectivity
VIIRS-NHF-EDR	VIIRS Net Heat Flux EDR	VIIRS-NHF-EDR-GEO	VIIRS Net Heat Flux Ellipsoid Geolocation Data – Terrain Corrected	NPP/NPOESS
VIIRS-OCC-EDR	VIIRS Ocean Color/Chlorophyll EDR	VIIRS-MOD-GEO-TC	VIIRS Moderate Bands Ellipsoid Geolocation Data – Terrain Corrected	NPP/NPOESS
VIIRS-SA-EDR	VIIRS Surface Albedo EDR	VIIRS-MOD-GEO-TC	VIIRS Moderate Bands Ellipsoid Geolocation Data – Terrain Corrected	NPP/NPOESS
VIIRS-SCD-BINARY-SNOW-FRAC-EDR	VIIRS Snow Cover Fraction EDR	VIIRS-MOD-GEO-TC	VIIRS Moderate Bands Ellipsoid Geolocation Data – Terrain Corrected	NPP/NPOESS
VIIRS-SCD-BINARY-SNOW-MAP-EDR	VIIRS Snow Cover Binary Map EDR	VIIRS-IMG-GEO-TC	VIIRS Image Band Ellipsoid Geolocation Data	NPP/NPOESS
VIIRS-SIC-EDR	VIIRS Sea Ice Characterization EDR	VIIRS-MOD-GEO-TC	VIIRS Moderate Bands Ellipsoid Geolocation Data – Terrain Corrected	NPP/NPOESS
VIIRS-SST-EDR	VIIRS Sea Surface Temperature EDR	VIIRS-MOD-GEO-TC	VIIRS Moderate Bands Ellipsoid Geolocation Data – Terrain Corrected	NPP/NPOESS
VIIRS-ST-EDR	VIIRS Surface Type EDR	VIIRS-MOD-GEO-TC	VIIRS Moderate Bands Ellipsoid Geolocation Data – Terrain Corrected	NPP/NPOESS
VIIRS-SusMat-EDR	VIIRS Suspended Matter EDR	VIIRS-MOD-GEO-TC	VIIRS Moderate Bands Ellipsoid Geolocation Data – Terrain Corrected	NPP/NPOESS
VIIRS-VI-EDR	VIIRS Vegetation Index EDR	VIIRS-IMG-GEO-TC	VIIRS Moderate Bands Ellipsoid Geolocation Data – Terrain Corrected	NPP/NPOESS

Table G-6, Intermediate Product Record Identifiers

IP Collection Short Name	IP Definition and/or Collection Long Name	GEO Collection Short Name	GEO Definition and/or Collection Long Name	Effectivity
OMPS-NP-IP	OMPS Nadir Profile IP	OMPS-NP-GEO	OMPS Nadir Profile Ellipsoid Geolocation Data	NPP/NPOESS
VIIRS-CM-IP	VIIRS Cloud Mask IP	VIIRS-MOD-GEO	VIIRS Moderate Bands Ellipsoid Geolocation Data	NPP/NPOESS
CrIS-IR-OZ-Prof-IP	CrIS Infra-Red Ozone IP	CrIMSS-EDR-GEO-TC	CrIMSS SDR Ellipsoid Geolocation Data (determined from CrIS SDR Geolocation) – Terrain Corrected	NPP/NPOESS

Table G-7, Application Related Product Geolocation Mapping

ARP Collection Short Name	ARP Definition and/or Collection Long Name	GEO Collection Short Name	GEO Definition and/or Collection Long Name	Effectivity
VIIRS-AF-EDR	VIIRS Active Fires ARP	N/A	This product does not provide any separate geolocation data– see product definition, CDFCB-X Volume IV, Part 1, D34862-04-01	NPP/NPOESS

APPENDIX H NPP AND APPLICABLE NPOESS DATA PRODUCT SCALING

Table H-1, SDR/TDR Scaling, and Table H-2, EDR/IP/ARP Scaling, indicate which data products are scaled. It is important to note the following caveats with respect to the scaling of the data products:

- Geolocation data is not scaled
- Quality Flags are not scaled
- Scale Factors are not scaled
- Scaling does not imply that the entire product is scaled – for the specific data sets that are scaled, see the CDFCB-X Volume III – SDR/TDRs, D34862-03, and the CDFCB-X Volume IV – EDR/IP/ARPs, D34862-04.

The scaling function used to produce the scaled values is:

$$\text{Scaled Value} = ((\text{Unscaled Value} - \text{Offset}) / \text{Scale}) + 0.5$$

Where the 0.5 value is used to account for the truncation from a floating point value to an integer – provides rounding of the results.

The unscaling function that should be employed is:

$$\text{Unscaled Value} = (\text{Scaled Value} * \text{Scale}) + \text{Offset}$$

where the scale and offset values are provided as a dataset in the HDF5 file of those products that use scaling.

The values provided are the minimum and maximum reporting ranges used to compute the scale and offsets. The scale value is calculated based on the following formula:

$$\text{Scale} = \text{Range} / (2^n - 9)$$

where the Range is defined by (Range Maximum - Range Minimum), n represents the number of bits being that the value is going to be scaled to (generally a 16-bit integer, see the data format definition for a given product for the data type), and 9 is one more than the maximum number of possible fill values.

The Offset value is determined based on the Range Minimum:

Offset = Minimum Reportable Range

Table H-1, SDR/TDR Scaling

NPP/NPOESS Data Products	Scaled	Not Scaled	Reportable Ranges		Comments
			Minimum	Maximum	
VIIRS I1 SDR	X		0.00	1.60	Reflectance
			-0.41	861.60	Radiances
VIIRS I2 SDR	X		0.00	1.60	Reflectance
			-0.24	418.80	Radiances
VIIRS I3 SDR	X		0.00	1.60	Reflectance
			-0.21	87.00	Radiances
VIIRS I4 SDR	X		208.00	367.00	Brightness Temperatures
			-0.01	3.61	Radiances
VIIRS I5 SDR	X		150.00	380.00	Brightness Temperatures
			-0.08	18.49	Radiances
VIIRS M1 SDR	X		0.00	1.60	Reflectance
			-0.21	738	Radiances
VIIRS M2 SDR	X		0.00	1.60	Reflectance
			-0.20	824.40	Radiances
VIIRS M3 SDR	X		0.00	1.60	Reflectance
			Radiances are not scaled		
VIIRS M4 SDR	X		0.00	1.60	Reflectance
			Radiances are not scaled		
VIIRS M5 SDR	X		0.00	1.60	Reflectance
			Radiances are not scaled		
VIIRS M6 SDR	X		0.00	1.60	Reflectance
			-0.09	49.20	Radiances
VIIRS M7 SDR	X		0.00	1.60	Reflectance
			Radiances are not scaled		
VIIRS M8 SDR	X		0.00	1.60	Reflectance
			-0.14	197.88	Radiances
VIIRS M9 SDR	X		0.00	1.60	Reflectance
			-0.09	92.52	Radiances

NPP/NPOESS Data Products	Scaled	Not Scaled	Reportable Ranges		Comments
			Minimum	Maximum	
VIIRS M10 SDR	X		0.00	1.60	Reflectance
			-0.04	85.44	Radiances
VIIRS M11 SDR	X		0.00	1.60	Reflectance
			-0.02	38.16	Radiances
VIIRS M12 SDR	X		203.00	368.00	Brightness Temperature
			0.00	3.39	Radiances
VIIRS M13 SDR		X			
VIIRS M14 SDR	X		120.00	365.00	Brightness Temperature
			-0.03	21.04	Radiances
VIIRS M15 SDR	X		111.00	381.00	Brightness Temperature
			-0.02	20.50	Radiances
VIIRS M16 SDR	X		103.00	382.00	Brightness Temperature
			-0.02	17.38	Radiances
VIIRS DNB SDR		X			
ATMS SDR	X		0.00	330.00	
ATMS TDR	X		0.00	330.00	
ATMS Remap SDR	X		0.00	330.00	
CrIS SDR		X			
OMPS Nadir Profile SDR		X			
OMPS Total Column SDR		X			

Table H-2, EDR/IP/ARP Scaling

NPP/NPOESS Data Products	Scaled	Not Scaled	Reportable Ranges		Comments
			Minimum	Maximum	
VIIRS I1 Imagery EDR	X		0.00	1.60	Reflectance
			-0.41	861.60	Radiances

NPP/NPOESS Data Products	Scaled	Not Scaled	Reportable Ranges		Comments
			Minimum	Maximum	
VIIRS I2 Imagery EDR	X		0.00	1.60	Reflectance
			-0.24	418.80	Radiances
VIIRS I3 Imagery EDR	X		0.00	1.60	Reflectance
			-0.21	87.00	Radiances
VIIRS I4 Imagery EDR	X		208.00	367.00	Brightness Temperatures
			-0.01	3.61	Radiances
VIIRS I5 Imagery EDR	X		150.00	380.00	Brightness Temperatures
			-0.08	18.49	Radiances
VIIRS M1 Imagery EDR	X		0.00	1.60	Reflectance
			-0.21	738	Radiances
VIIRS M2 Imagery EDR	X		0.00	1.60	Reflectance
			-0.20	824.40	Radiances
VIIRS M3 Imagery EDR	X		0.00	1.60	Reflectance
			-0.12	842.40	Radiances
VIIRS M4 Imagery EDR	X		0.00	1.60	Reflectance
			-0.10	800.40	Radiances
VIIRS M5 Imagery EDR	X		0.00	1.60	Reflectance
			-0.08	781.20	Radiances
VIIRS M6 Imagery EDR	X		0.00	1.60	Reflectance
			-0.09	49.20	Radiances
VIIRS M7 Imagery EDR	X		0.00	1.60	Reflectance
			-0.04	418.80	Radiances
VIIRS M8 Imagery EDR	X		0.00	1.60	Reflectance
			-0.14	197.88	Radiances
VIIRS M9 Imagery EDR	X		0.00	1.60	Reflectance
			-0.09	92.52	Radiances
VIIRS M10 Imagery EDR	X		0.00	1.60	Reflectance
			-0.04	85.44	Radiances
VIIRS M11 Imagery EDR	X		0.00	1.60	Reflectance
			-0.02	38.16	Radiances

NPP/NPOESS Data Products	Scaled	Not Scaled	Reportable Ranges		Comments
			Minimum	Maximum	
VIIRS M12 Imagery EDR	X		203.00	368.00	Brightness Temperature
			0.00	3.39	Radiances
VIIRS M13 Imagery EDR	X		192.00	683.00	Brightness Temperature
			-0.01	485.15	Radiances
VIIRS M14 Imagery EDR	X		120.00	365.00	Brightness Temperature
			-0.03	21.04	Radiances
VIIRS M15 Imagery EDR	X		111.00	381.00	Brightness Temperature
			-0.02	20.50	Radiances
VIIRS M16 Imagery EDR	X		103.00	382.00	Brightness Temperature
			-0.02	17.38	Radiances
VIIRS Near Constant Contrast (NCC) Imagery EDR	X		0.00	1.60	
CrIMSS AVP EDR		X			
VIIRS Sea Surface Temperature (SST) EDR	X		265.00	320.00	
VIIRS Aerosol Optical Thickness (AOT) EDR	X		-1.00	10.00	
VIIRS Aerosol Particle Size Parameter (APSP) EDR	X		-2.00	10.00	
VIIRS Suspended Matter (SM) EDR	X		-1.00	2000.00	Only Smoke Concentration is scaled
OMPS Total Column EDR		X			
OMPS Ozone Profile EDR		X			
VIIRS Cloud Base Height (CBH) EDR	X		-1.00	30.00	
VIIRS Cloud Cover/Layers (CCL) EDR	X		0.00	1.00	

NPP/NPOESS Data Products	Scaled	Not Scaled	Reportable Ranges		Comments
			Minimum	Maximum	
VIIRS Cloud Effective Particle Size (CEPS) EDR	X		0.00	124.00	
VIIRS Cloud Optical Thickness (COT) EDR	X		0.00	200.00	
Active Fires ARP		X			
VIIRS Ice Age EDR		X			
VIIRS Cloud Top Height (CTH) EDR	X		0.00	30.00	
VIIRS Cloud Top Pressure (CTP) EDR	X		50.00	1050.00	
VIIRS Cloud Top Temperature (CTT) EDR	X		170.00	310.00	
VIIRS Surface Albedo EDR	X		-1.00	2.00	
VIIRS Land Surface Temperature (LST) EDR	X		183.20	350.00	
VIIRS Vegetation Index (VI) EDR	X		-1.00	4.00	EVI
			-1.00	1.00	NDVI
VIIRS Snow Cover Fraction EDR	X		0.00	1.00	
VIIRS Snow Cover Binary Map EDR		X			
VIIRS Ice Surface Temperature (IST) EDR	X		183.20	275.00	
VIIRS Net Heat Flux (NHF) EDR		X			
VIIRS Ocean Color Chlorophyll (OCC) EDR		X			
VIIRS Surface Type EDR	X		0.00	1.00	Only Vegetation Fraction is scaled
CrIS Infra-red (IR)Ozone IP		X			
Quarterly Surface Type IP		X			

NPP/NPOESS Data Products	Scaled	Not Scaled	Reportable Ranges		Comments
			Minimum	Maximum	
OMPS Nadir Profile IP		X			
VIIRS Cloud Mask IP		X			

APPENDIX I HDF5 DATA TYPES CROSSWALK

Table I-1, HDF5 Data Types Crosswalk

Non-Language Specific Type	HDF5 Type	C type	C++ Type	Java Type
16-bit Integer	H5T_NATIVE_SHORT	short	short	short
Unsigned 16-bit Integer	H5T_NATIVE_USHORT	unsigned short	unsigned short	char
32-bit Integer	H5T_NATIVE_INT	int	int	int
Unsigned 32-bit Integer	H5T_NATIVE_UINT	unsigned int	Unsigned int	N/A
64-bit Integer	H5T_NATIVE_LLONG	long long	long long	N/A
Unsigned 64-bit Integer	H5T_NATIVE_ULLONG	unsigned long long	unsigned long long	N/A
32-bit Floating Point Number	H5T_NATIVE_FLOAT	float	float	float
64-bit Floating Point Number	H5T_NATIVE_DOUBLE	double	double	double
signed 8-bit Character				
	H5T_NATIVE_SCHAR	signed char	signed char	byte
Unsigned 8-bit Character	H5T_NATIVE_UCHAR	unsigned char	unsigned char	N/A
String	H5T_C_S1	N/A	N/A	String

APPENDIX J DELETED