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Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for the Ozone Nadir Profile

Block 2.0.0

Goddard Space Flight Center
Greenbelt, Maryland

National Aeronautics and
Space Administration

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Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for the Ozone Nadir Profile JPSS Review/Approval Page

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Preface

This document is under JPSS Ground ERB configuration control. Once this document is approved, JPSS approved changes are handled in accordance with Class I and Class II change control requirements as described in the JPSS Configuration Management Procedures, and changes to this document shall be made by complete revision.

Any questions should be addressed to:

JPSS Configuration Management Office
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Change History Log

Revision	Effective Date	Description of Changes (Reference the CCR & CCB/ERB Approve Date)	Sections Affected
0200-	Aug. 29, 2013	This version incorporates 474-CCR-13-1183 which was approved by JPSS Ground ERB on the effective date shown.	All
0200A	Jan 16, 2014	This version incorporates 474-CCR-13-1430 which was approved by JPSS Ground ERB on the effective date shown.	All
0200A1	Oct 23, 2014	This version incorporates 474-CCR-14-2091 which was approved by the JPSS Ground ERB for CO10 on the effective date shown.	All
0200B	Jan 07, 2015	This version incorporates 474-CCR-14-2110, and 474-CCR-14-2178 which were approved by JPSS Ground ERB on the effective date shown.	All

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List of TBx Items

TBx	Type	ID	Text	Action
None				

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1 Introduction

1.1 Scope

The Joint Polar Satellite System (JPSS) Algorithm Specification for Ozone Nadir Profile – Volume II: Data Dictionary contains the specifications for the format of the Ozone Nadir Profile Intermediate Products (IPs) and Environmental Data Records (EDRs). This specification includes the format of the Hierarchical Data Format Release 5 (HDF5) files, as well as the product definitions. These formats are available to external users of the JPSS. For an overview of the data product formats, see 474-00001-01, JPSS CDFCB-X Vol I. For an overview of the metadata formats for data products, see 474-00448-02-01, JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms.

1.2 Organization

Section	Contents
Section 1	Provides information regarding the scope, and organization of this document, as reference material only.
Section 2	Lists parent documents and related documents that were used as sources of information for this document or that provide additional background information to aid understanding of the interface implementations.
Section 3	Provides an overview of the HDF5 UML for the data product types
Section 4	Provides a description of the contents of each JPSS Intermediate Product associated with this algorithm grouping.
Section 5	Provides a description of the contents of each JPSS EDR associated with this algorithm grouping.
Section 6	Identifies the ancillary and auxiliary data needed for the processing associated with this algorithm grouping if applicable.
Section 7	Provides a description of relevant Look-Up Tables (LUTs) and Processing Coefficient Tables (PCTs) associated with this algorithm grouping.
Appendix A	Provides the Data Mnemonic to Interface Mapping for the data products in this volume.
Appendix B	Provides the mapping the quality flags by sensor and product that are reportable to the associated data product quality flag Test ID used in the processing environment
Appendix C	References 470-00041, JPSS Program Lexicon.
Attachment A	Provides the list of applicable xml files for this Data Dictionary.

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2 Related Documentation

The latest JPSS documents can be obtained from URL: https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm. JPSS Project documents have a document number starting with 470, 472 or 474 indicating the governing Configuration Control Board (CCB) (Program, Flight, or Ground) that has the control authority of the document.

2.1 Parent Documents

The following reference document(s) is (are) the Parent Document(s) from which this document has been derived. Any modification to a Parent Document will be reviewed to identify the impact upon this document. In the event of a conflict between a Parent Document and the content of this document, the JPSS Program Configuration Change Board has the final authority for conflict resolution.

Document Number	Title
470-00067	Joint Polar Satellite System (JPSS) Ground System Requirements Document (GSRD)
470-00067-02	Joint Polar Satellite System (JPSS) Ground System Requirements Document (GSRD), Volume 2 – Science Product Specifications
474-00448-01-01	Joint Polar Satellite System (JPSS) Algorithm Specification Volume I: Software Requirements Specification (SRS) for the Common Algorithms

2.2 Applicable Documents

The following document(s) is (are) the Applicable Document(s) from which this document has been derived. Any modification to an Applicable Document will be reviewed to identify the impact upon this document. In the event of conflict between an Applicable Document and the content of this document, the JPSS Program Configuration Change Board has the final authority for conflict resolution.

Document Number	Title
NPR 7150.2A	NASA Software Engineering Requirements
474-00167	Joint Polar Satellite System (JPSS) Common Ground System (CGS) Requirements Document
474-00005	Joint Polar Satellite System (JPSS) Government Resource for Algorithm Verification, Independent Testing, and Evaluation (GRAVITE) Requirements Document
N/A	Hierarchical Data Format, Version 5 (HDF5), http://www.hdfgroup.org/HDF5/

2.3 Information Documents

The following documents are referenced herein and amplify or clarify the information presented in this document. These documents are not binding on the content of this document.

Document Number	Title
474-00026	Joint Polar Satellite System (JPSS) OMPS Nadir Profile Ozone Algorithm Theoretical BASIS Document (ATBD)

Document Number	Title
474-00448-03-22	Joint Polar Satellite System (JPSS) Algorithm Specification Volume III: Operational Algorithm Description (OAD) for the Ozone Nadir Profile EDR
474-00333	Joint Polar Satellite System (JPSS) Ground System (GS) Architecture Description Document (ADD)
474-00448-02-05	Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for the OMPS NP RDR/SDR
474-00054	Joint Polar Satellite System (JPSS) Ground System (GS) Concept of Operations (ConOps)
470-00041	Joint Polar Satellite System (JPSS) Program Lexicon
CCSDS 301.0-B-3	Time Code Formats Blue Book available at http://www.ccsds.org
WMO Publication 306	Manual on Codes, FM92 GRIB Edition 2 Version 2 of 5 Nov 2003, available at http://www.wmo.ch/web/www/DPS/grib-2.html.
ISO/IEC 10646	ASCII Standard, the Corresponding International Standards Organization (ISO) standard
474-00001-01	Joint Polar Satellite System (JPSS) Common Data Format Control Book, Vol I – Overview
474-00448-02-01	Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for the Common Algorithms

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3 UML for HDF5 Products

The following paragraphs describe the structure and contents of the IP and EDR granules formed by the JPSS ground processing software.

3.1 Intermediate Products and Environmental Data Records HDF5 Details - Statically Sized

Figure 3.1-1, Generalized UML Diagram for statically sized HDF5 IP/EDR Files, depicts the HDF5 IP/EDR organization as a Unified Modeling Language (UML) class diagram. Each HDF5 IP/EDR file contains an HDF5 Root Group, '/', a Data Products Group, Product Groups (Collection Short Name), an optional Geolocation Group (depending upon packaging option, see the JPSS CDFCB-X Vol. I, for a description of the geolocation packaging), and an All Data Group (dataset arrays). The Product Groups and Geolocation Group both contain datasets - an Aggregation Dataset (Collection Short Name_Agg) and Granule Datasets (Collection Short Name_Gran_n) - where n indicates the nth granule in a temporal aggregation of granules (0 .. n-1). A granule is a general term used to describe the minimum quanta of data collected per processing period, generally on the order of seconds. For the definition and organization of the metadata attributes contained in the HDF5 files, see the JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms (474-00448-02-01) - Metadata. Attributes that are specific to a particular IP/EDR are listed with the specific IP/EDR's data format definition. For the generalized formats and packaging options for the Geolocation data, see the JPSS CDFCB-X Vol. I - Overview.

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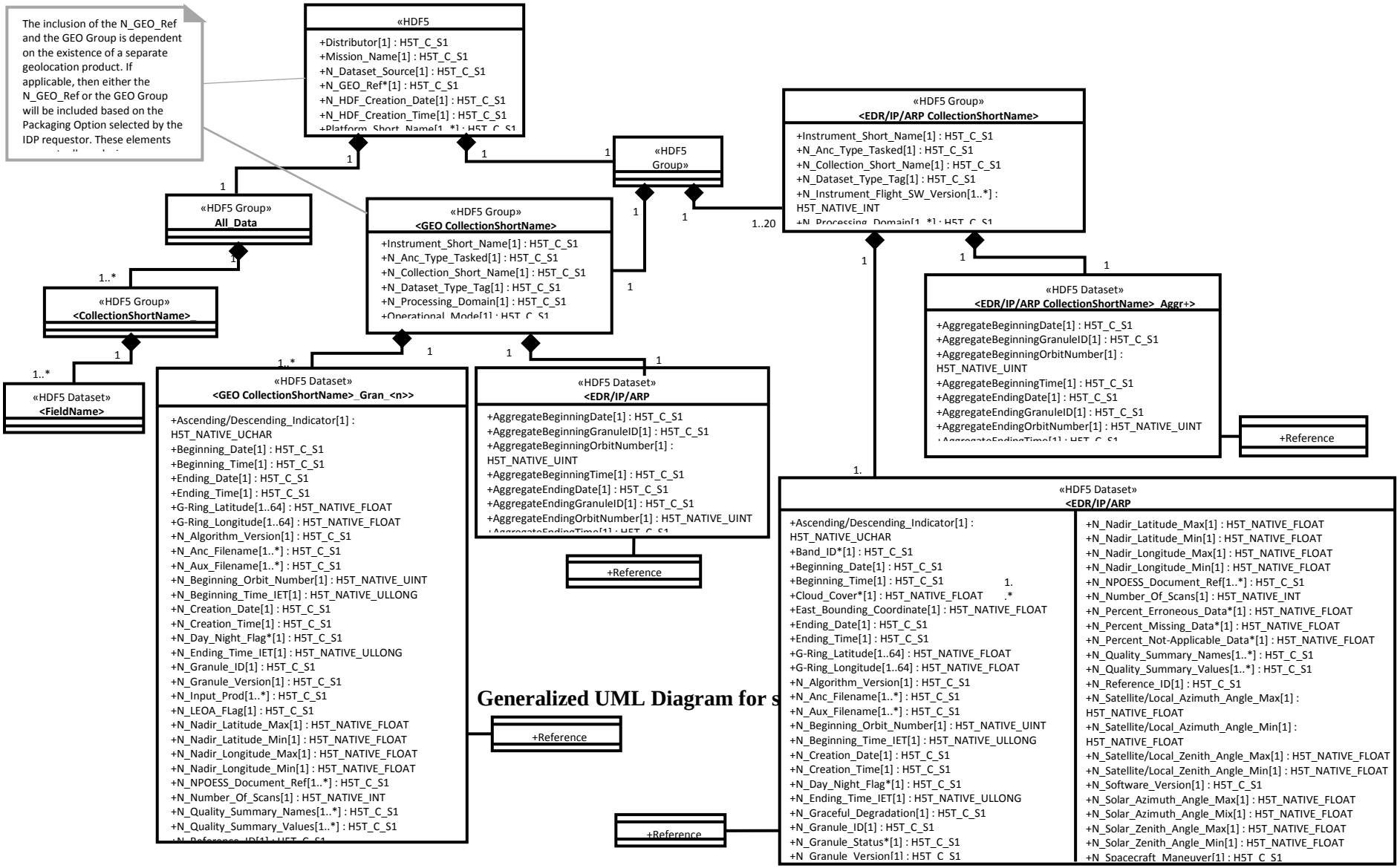

Generalized UML Diagram for s

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

3.2 Intermediate Products, Application Related Products and Environmental Data Records HDF5 Details - Dynamically Sized

Figure 3.2-1, Generalized UML Diagram for dynamically sized HDF5 IP/EDR Files, depicts the HDF5 IP/EDR organization as a Unified Modeling Language (UML) class diagram for products that contain dynamically sized fields. Dynamically sized means that a field's length will vary from granule to granule. The organization of the HDF5 file is identical to the statically sized HDF5 file with the exception of the aggregation and corresponding All_Data group. For statically sized products, the object ID stored in the aggregation array points to a Dataset_Array under the All_Data group. This Dataset_Array is a single HDF5 dataset for each field. This single HDF5 dataset contains all the data for all granules in the file for a given field. However, for dynamically sized products, the object ID stored in the aggregation array points to an HDF5 group instead. This HDF5 group contains one or more datasets - a separate dataset for each granule for a given field. The dataset is named "Dataset_Array_Gran_n".

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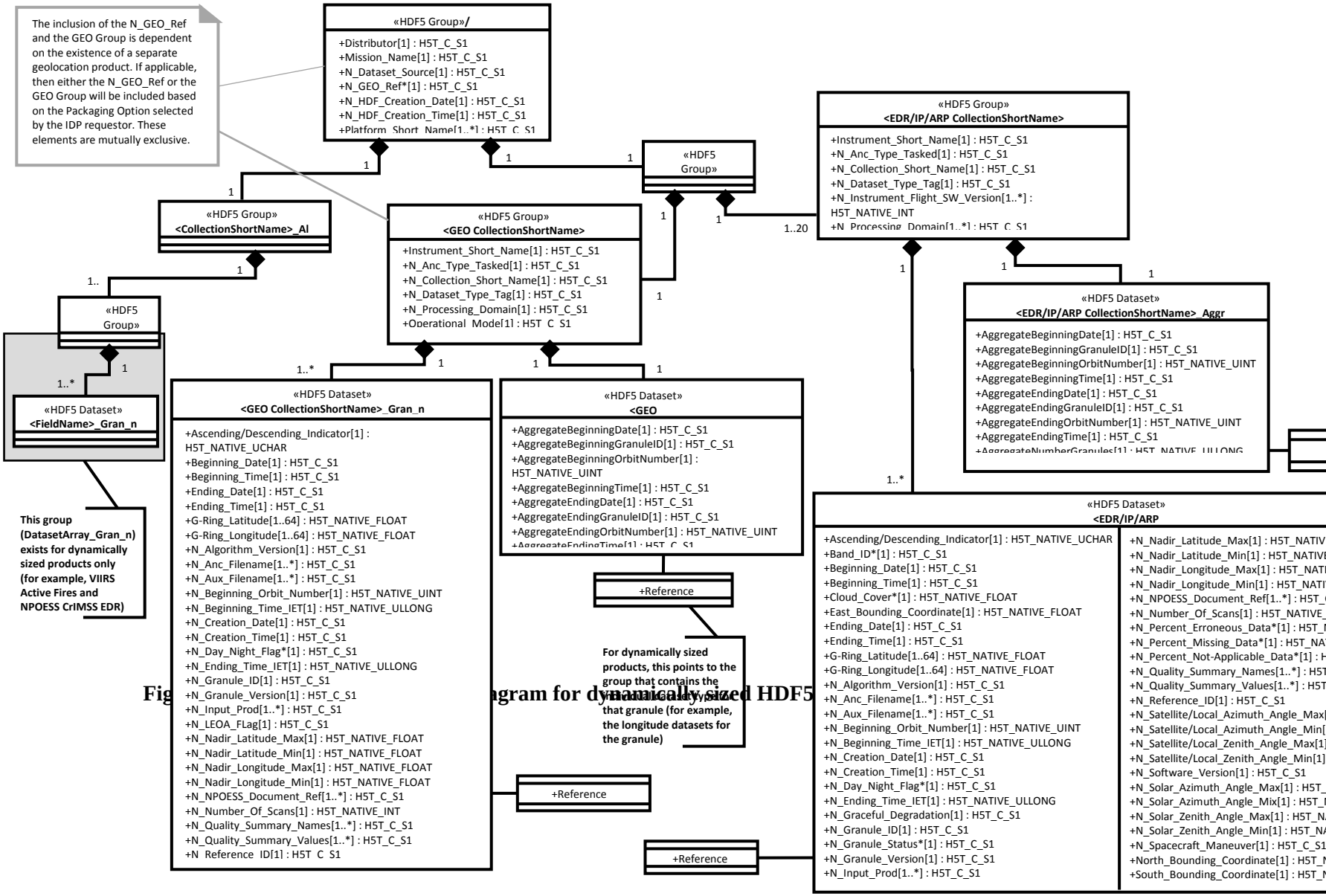

Fig[illegible]agram for dynamically sized HDF5

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

4 Intermediate Products (IPs)

IPs are defined as a data subset or retrieval by-product that is required within another primary data product's generation sequence or is used as an input to secondary processing or analysis. The IPs defined here can be packaged and delivered to the end-user. Other IPs are generated during the creation of EDRs but are not deliverable and are thus not documented here.

4.1 Ozone Nadir Profile Averaging Kernels IP

Data Mnemonic	IMPI_NPAK_R0100 (Official) IMPI_NPAK_R0110 (Substitute)
Description/ Purpose	Averaging kernels used in the NP retrieval. Effectivity: S-NPP and JPSS
File-Naming Construct	See the JPSS CDFCB-X Vol. I, 474-00001-01, section 3.0 for details
File Size	See Table: 4.1.1-1 Ozone Nadir Profile Averaging Kernels IP Data Content Summary for size. This granule size includes output related fields and quality flags only. Geolocation and metadata attributes are not included. Additional size added by HDF5 packaging is also not included.
File Format Type	HDF5
Production Frequency	As requested
Data Content and Data Format	See Section 4.1.1 Ozone Nadir Profile Averaging Kernels Data Content Summary See Section 4.1.2 Ozone Nadir Profile Averaging Kernels IP Product Profile See Section 4.1.3 Ozone Nadir Profile Averaging Kernels IP HDF5 Details See Section 4.1.4 Ozone Nadir Profile Averaging Kernels IP Metadata Details See Section 4.1.5 Ozone Nadir Profile Averaging Kernels IP Geolocation Details

4.1.1 Ozone Nadir Profile Averaging Kernels IP Data Content Summary

Table: 4.1.1-1 Ozone Nadir Profile Averaging Kernels IP Data Content Summary

Name	Description	Data Type	Aggregate Dimensions (N= Number of Granules	Granual Dimensions	Units
data		32-bit floating point	[N*1, 12, 12]	[1, 12, 12]	Unitless
File Size:	**576 Bytes**				

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4.1.2 Ozone Nadir Profile Averaging Kernels IP Product Profile

Table: 4.1.2-1 Ozone Nadir Profile Averaging Kernels IP Product Profile

OMPS-NP-Ave-Ker-IP Product Profile

Fields

Name	Data Size	Dimensions
data	4byte(s)	

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
IP_SCANS_PER_GRANULE	No	No	1	1
NUMBER_OF_UNK_MAX	No	No	12	12
NUMBER_OF_UNK_MAX	No	No	12	12

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
data	0	MIN_VAL	MAX_VAL	Unitless	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		
								SOUB_FLOAT32_FILL	-999.2		

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4.1.3 Ozone Nadir Profile Averaging Kernels IP HDF5 Details

Figure 4.1.3-1, Ozone Nadir Profile Averaging Kernels IP UML Diagram, provides details on the contents and data types of the Ozone Nadir Profile Averaging Kernels IP. This UML provides details at the product level detail only. In addition to this UML, refer to Figure 3.1-1 Generalized UML Diagram for statically sized HDF5 IP/EDR Files, for a complete UML rendering of this product.

MPS-NP-Ave-Ker-IP
+data : H5T_NATIVE_FLOAT

Figure: 4.1.3-1 Ozone Nadir Profile Averaging Kernels IP UML Diagram

4.1.4 Ozone Nadir Profile Averaging Kernels IP Metadata Details

The HDF5 metadata elements associated with the Ozone Nadir Profile Averaging Kernels IP are listed in the JPSS Algorithm Specification Vol. II: Data Dictionary for the Common Algorithms, 474-00448-02-01. These metadata elements include all common metadata at the root, product, aggregation, and granule level.

There are no granule level Quality Flags defined as metadata elements in the Ozone Nadir Profile Averaging Kernels IP. Therefore, there are no entries in the N_Quality_Summary_Name/Value metadata attributes for this product.

4.1.5 Ozone Nadir Profile Averaging Kernels IP Geolocation Details

The Ozone Nadir Profile Averaging Kernels uses the OMPS NP SDR Geolocation. See the JPSS OMPS NP RDR/SDR Vol. II, 474-00448-02-05, Section 6.2.1.5, OMPS NP SDR Geolocation for geolocation details.

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5 Environmental Data Records (EDRs)

5.1 Ozone Nadir Profile EDR

Data Mnemonic	EDRE-NAOP-C0030 (Official) EDRE-NAOP-C0031 (Substitute)
Description/ Purpose	The Nadir Ozone Profile EDR reports profiles derived from total column ozone measurements. The profiles are reported in two forms: 1. Standard pressure layers(used for SBUV/2) which, except for the lowest and highest layers, are roughly 5km in height 2. Ozone mixing ratios at 19 pressure levels Sensors: OMPS Effectivity: S-NPP and JPSS
File-Naming Construct	See the JPSS CDFCB-X Vol. I, Section 3.0 for details.
File Size	See Table: 5.1.1-1 Ozone Nadir Profile EDR Data Content Summary for size.
File Format Type	HDF5
Production Frequency	As per request
Data Content and Data Format	The output data product consists of See Section 5.1.1, Ozone Nadir Profile EDR Data Content Summary See Section 5.1.2, Ozone Nadir Profile EDR Product Profile See Section 5.1.3, Ozone Nadir Profile EDR HDF5 Details See Section 5.1.4, Ozone Nadir Profile EDR Metadata Details See Section 5.1.5, Ozone Nadir Profile EDR Geolocation Details

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5.1.1 Ozone Nadir Profile EDR Data Content Summary

Table: 5.1.1-1 Ozone Nadir Profile EDR Data Content Summary

Name	Description	Data Type	Aggregate Dimensions (N=Number of Granules)	Granule Dimensions	Units
NormalizedRadiance_380nm	Normalized radiance value for 380 nm wavelength	32-bit floating point	[N*1, 1]	[1, 1]	N Value
NormalizedRadiance_340nm_331nm_318nm_312nm	Total column sensor N values for the 340, 331, 318, and 312 nm channels	32-bit floating point	[N*1, 1, 4]	[1, 1, 4]	N Value
Wavelengths	13 Wavelengths of Observation	32-bit floating point	[N*1,1,13]	[1,1,13]	nm
A-PairTotalO3	Total ozone amount derived from the A-pair of wavelengths	32-bit floating point	[N*1, 1]	[1, 1]	milli-atm-cm (DU)
A-PairSensitivity	A pair sensitivity	32-bit floating point	[N*1, 1]	[1, 1]	(N-Value)/DU
A-PairReflectivity	A pair average reflectivity	32-bit floating point	[N*1, 1]	[1, 1]	percent
A-PairWeight	A pair weight (weighting factor in TOZ calc)	32-bit floating point	[N*1, 1]	[1, 1]	unitless
B-PairTotalO3	Total ozone amount derived from the B-pair of wavelengths	32-bit floating point	[N*1, 1]	[1, 1]	milli-atm-cm (DU)
B-PairSensitivity	B pair sensitivity	32-bit floating point	[N*1, 1]	[1, 1]	(N-Value)/DU
B-PairReflectivity	B pair average reflectivity	32-bit floating point	[N*1, 1]	[1, 1]	percent
B-PairWeight	B pair weight (weighting factor in TOZ calc)	32-bit floating point	[N*1, 1]	[1, 1]	unitless
ColumnAmountO3	Best estimate total ozone	32-bit floating point	[N*1, 1]	[1, 1]	DU
C-PairTotalO3	Total ozone amount derived from the C-pair	32-bit floating point	[N*1, 1]	[1, 1]	milli-atm-cm (DU)

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Name	Description	Data Type	Aggregate Dimensions (N=Number of Granules)	Granule Dimensions	Units
	of wavelengths				
ReflSurfPressure	Pressure of reflecting surface	32-bit floating point	[N*1, 1]	[1, 1]	Atm
BestReflectivity	Best Reflectivity from retrieval	32-bit floating point	[N*1, 1]	[1, 1]	percent
C-PairSensitivity	C pair sensitivity	32-bit floating point	[N*1, 1]	[1, 1]	(N-Value)/DU
OzoneErrorFlagforBest Ozone	Ozone Error Flag for Best Ozone - indicates error in retrieval Values range from 0 - 20	32-bit floating point	[N*1, 1]	[1, 1]	unitless
tableIndex	Table Selection Index 0 - Low Latitude; 1 - Mid Latitude; 2 - High Latitude	32-bit floating point	[N*1, 1]	[1, 1]	unitless
SnowIceCode	Snow/Ice Code	32-bit floating point	[N*1, 1]	[1, 1]	unitless
TerrainPressure	Terrain (ground) pressure	32-bit floating point	[N*1, 1]	[1, 1]	Atm
D-PairTotalO3	Total ozone amount derived from the D-pair of wavelengths	32-bit floating point	[N*1, 1]	[1, 1]	milli-atm-cm (DU)
SO2index	Sulfur Dioxide Index	32-bit floating point	[N*1, 1]	[1, 1]	unitless
BPrime-PairTotalO3	Total ozone amount derived from the B Prime Pair of wavelengths	32-bit floating point	[N*1, 1]	[1, 1]	milli-atm-cm (DU)
N_Values_Interpolated ToSBUVmon	N values interpolated from the radiances from the 147 wavelengths of the NP sensor to the SBUV/2 profiling wavelengths (for SBUV/2 were the n-values of the profiling wavelengths)	32-bit floating point	[N*1, 1, 8]	[1, 1, 8]	N Value

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Name	Description	Data Type	Aggregate Dimensions (N=Number of Granules)	Granule Dimensions	Units
FirstGuessO3Profile	First guess profile for layers	32-bit floating point	[N*1, 1, 12]	[1, 1, 12]	milli-atm-cm (DU)
FirstGuessTotalO3	Total ozone for first guess	32-bit floating point	[N*1, 1]	[1, 1]	milli-atm-cm (DU)
QValues	Q-Value corrected for multiple scattering and surface reflectivity (listed in order from shorter to longer wavelengths … 255.5 to 317.5 nm)	32-bit floating point	[N*1, 1, 10]	[1, 1, 10]	unitless
InitialResiduals	Initial residues of Q-Values	32-bit floating point	[N*1, 1, 10]	[1, 1, 10]	percent
QValuesCorrectionsLonger	Correction to Q-Values (pressure levels) for the five longer wavelength channels due to Multiple Scattering and Reflectivity (MSR); Listed from shorter to longer wavelength	32-bit floating point	[N*1, 1, 5]	[1, 1, 5]	unitless
ReflectivitiesLonger	Monochromator reflectivities for the five longer wavelengths; Listed from shorter to longer wavelength (297.5nm to 317.5nm)	32-bit floating point	[N*1, 1, 5]	[1, 1, 5]	percent
MultipleScatteringSensitivity	Multiple scattering sensitivity for five longer wavelengths (297.5 to 317.5 nm)	32-bit floating point	[N*1, 1, 5]	[1, 1, 5]	Q value)/DU
MultipleScatteringMix	Multiple scattering mixing fraction - The mixing fraction which parameterizes	32-bit floating point	[N*1, 1, 5]	[1, 1, 5]	unitless

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Name	Description	Data Type	Aggregate Dimensions (N=Number of Granules)	Granule Dimensions	Units
	contributions of lower and higher latitude profiles in determination of MSR radiance from lookup tables				
FinalQValueResidues	Final residues of Q-Values (percent) derived using obtained from final solution profile; Listed from shorter to longer wavelength (255.5nm to 317.5nm)	32-bit floating point	[N*1, 1, 10]	[1, 1, 10]	percent
FinalO3Profile	Solution profile individual ozone amounts (matm-cm) in 12 SBUV layers (SBUV layer 1 first)	32-bit floating point	[N*1, 1, 12]	[1, 1, 12]	milli-atm-cm (DU)
FinalO3Profile_Std	Standard deviations for solution profile individual ozone amounts (%) in 12 SBUV layers	32-bit floating point	[N*1, 1, 12]	[1, 1, 12]	percent
TotalO3SolutionProfile	Total ozone for solution profile (above 1 atm)	32-bit floating point	[N*1, 1]	[1, 1]	milli-atm-cm (DU)
OzoneErrorFlagforProfile	Ozone Error Flag for Profile 0 - Good Profile (Ascending) 10 - Good Profile (Descending)	32-bit floating point	[N*1, 1]	[1, 1]	unitless
CParameter	C parameter for c-sigma calculation. Represents the ratio of atmospheric scale height to the ozone scale height in C-	32-bit floating point	[N*1, 1]	[1, 1]	unitless

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Description	Data Type	Aggregate Dimensions (N=Number of Granules)	Granule Dimensions	Units
	Sigma validity check; Sigma should range from 0.3 to 0.8 or an error code is assigned.				
SigmaParameter	Sigma parameter for c-sigma calculation. Represents the ratio of atmospheric scale height to the ozone scale height in C-Sigma validity check; Sigma should range from 0.3 to 0.8 or an error code is assigned.	32-bit floating point	[N*1, 1]	[1, 1]	unitless
O3MixingRatio	Volume mixing ratio (from spline interpolation) of ozone at 19 pressure levels in order of increasing atmospheric pressure (0.3 mb to 100 mb)	32-bit floating point	[N*1, 1, 19]	[1, 1, 19]	ppmv
FirstGuessO3_Std	Standard deviations of first guess (a priori) profile individual ozone amounts (%) in 12 layers (SBUV layer 1 first)	32-bit floating point	[N*1, 1, 12]	[1, 1, 12]	percent
QValues_Std	Standard deviations for Q-values corrected for multiple scattering and reflectivity (255.5 nm through 317.5 nm) in %	32-bit floating point	[N*1, 1, 10]	[1, 1, 10]	unitless
Iterations	Number of iterations for profile solution	32-bit floating point	[N*1, 1]	[1, 1]	unitless
VolcanoContaminationIdx	Volcano Contamination Index (VCI): Can be	32-bit floating point	[N*1, 1]	[1, 1]	unitless

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Description	Data Type	Aggregate Dimensions (N=Number of Granules)	Granule Dimensions	Units
	used to whether the derived profiles below 5 mb are incorrect because of scattering by aerosols. VCI are in units of the climatological standard deviation of the tropospheric ozone value for a given latitude.				
D-PairSensitivity	D pair sensitivity	32-bit floating point	[N*1, 1]	[1, 1]	(N-Value)/DU
BPrime-PairSensitivity	B Prime pair sensitivity	32-bit floating point	[N*1, 1]	[1, 1]	(N-Value)/DU
SAA	Spacecraft within South Atlantic Anomaly (extent in percent based on Climatological data)	unsigned 8-bit char	[N*1]	[1]	unitless
SunGlint	Sun glint indication (scattering angle and surface type thresholds)	unsigned 8-bit char	[N*1, 1]	[1, 1]	unitless
SolarEclipse	All or part of the IFOV is affected by a solar eclipse, umbra or penumbra viewing.	unsigned 8-bit char	[N*1, 1]	[1, 1]	unitless
File Size	**731 Bytes**				

5.1.2 Ozone Nadir Profile EDR Product Profile

Table: 5.1.2-1 Ozone Nadir Profile EDR Product Profile

Nadir Ozone Profile EDR Product Profile

Fields						
Name	**Data Size**	**Dimensions**				
NormalizedRadiance_380nm	4byte(s)	**Name**	**Granule Boundary**	**Dynamic**	**Min Array Size**	**Max Array Size**
		EDR_SCANS_PER_GRANULE	Yes	No	1	1
		EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Normalized radiance value for 380 nm wavelength	0	MIN_VAL	MAX_VAL	N value	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 Name: MISS_FLOAT32_FILL, Value: -999.8 Name: ERR_FLOAT32_FILL, Value: -999.5 Name: ELLIPSOID_FLOAT32_FILL, Value: -999.4 Name: VDNE_FLOAT32_FILL, Value: -999.3	Name: , Value:

NormalizedRadiance_340nm_331nm_318nm_312nm — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_EDR_TC_SPECTRUM_SIZE_SANS_380NM	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	Legend Entries
Total column sensor N values for the 340, 331, 318, and 312 nm channels	0	MIN_VAL	MAX_VAL	N value	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 Name: MISS_FLOAT32_FILL, Value: -999.8 Name: ERR_FLOAT32_FILL, Value: -999.5 Name: ELLIPSOID_FLOAT32_FILL, Value: -999.4 Name: VDNE_FLOAT32_FILL, Value: -999.3	Name: , Value:

Wavelengths — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
Wavelength	No	No	13	13

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
13 Wavelengths of Observation	0	MIN_VAL	MAX_VAL	nm	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 Name: MISS_FLOAT32_FILL, Value: -999.8 Name: ERR_FLOAT32_FILL, Value: -999.5 Name: ELLIPSOID_FLOAT32_FILL, Value: -999.4 Name: VDNE_FLOAT32_FILL, Value: -999.3	Name: , Value:

A-PairTotalO3 — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Total ozone amount derived from the A-pair of wavelengths	0	MIN_VAL	MAX_VAL	milli-atm-cm (DU)	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9	Name: , Value:

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

										MISS_FLOAT32_FILL	-999.8
										ERR_FLOAT32_FILL	-999.5
										ELLIPSOID_FLOAT32_FILL	-999.4
										VDNE_FLOAT32_FILL	-999.3

A-PairSensitivity — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
A pair sensitivity	0	MIN_VAL	MAX_VAL	(N-Value)/DU	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

A-PairReflectivity — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
A pair average reflectivity	0	MIN_VAL	MAX_VAL	percent	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

A-PairWeight — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
A pair weight (weighting factor in TOZ calc)	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

B-PairTotalO3 — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

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EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Total ozone amount derived from the B-pair of wavelengths	0	MIN_VAL	MAX_VAL	milli-atm-cm (DU)	No		32-bit floating point	Name / Value: NA_FLOAT32_FILL -999.9; MISS_FLOAT32_FILL -999.8; ERR_FLOAT32_FILL -999.5; ELLIPSOID_FLOAT32_FILL -999.4; VDNE_FLOAT32_FILL -999.3	Name / Value

B-PairSensitivity — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
B pair sensitivity	0	MIN_VAL	MAX_VAL	(N-Value)/DU	No		32-bit floating point	Name / Value: NA_FLOAT32_FILL -999.9; MISS_FLOAT32_FILL -999.8; ERR_FLOAT32_FILL -999.5; ELLIPSOID_FLOAT32_FILL -999.4; VDNE_FLOAT32_FILL -999.3	Name / Value

B-PairReflectivity — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
B pair average reflectivity	0	MIN_VAL	MAX_VAL	percent	No		32-bit floating point	Name / Value: NA_FLOAT32_FILL -999.9; MISS_FLOAT32_FILL -999.8; ERR_FLOAT32_FILL -999.5; ELLIPSOID_FLOAT32_FILL -999.4; VDNE_FLOAT32_FILL -999.3	Name / Value

B-PairWeight — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
B pair weight (weighting factor in TOZ calc)	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	Name / Value: NA_FLOAT32_FILL -999.9; MISS_FLOAT32_FILL -	Name / Value

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

											999.8
										ERR_FLOAT32_FILL	-999.5
										ELLIPSOID_FLOAT32_FILL	-999.4
										VDNE_FLOAT32_FILL	-999.3

ColumnAmountO3 — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Best estimate total ozone	0	MIN_VAL	MAX_VAL	DU	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

C-PairTotalO3 — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Total ozone amount derived from the C-pair of wavelengths	0	MIN_VAL	MAX_VAL	milli-atm-cm (DU)	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

ReflSurfPressure — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Pressure of reflecting surface	0	MIN_VAL	MAX_VAL	Atm	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

BestReflectivity — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRA	Yes	No	1	1

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NULE						
EDR_FOVS	No	No	1	1		

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Best Reflectivity from retrieval	0	MIN_VAL	MAX_VAL	percent	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

C-PairSensitivity — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
C pair sensitivity	0	MIN_VAL	MAX_VAL	(N-Value)/DU	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

OzoneErrorFlagforBestOzone — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Ozone Error Flag for Best Ozone - indicates error in retrieval	0	0	20	unitless	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

tableIndex — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Table Selection Index; 0 - Low Latitude; 1 - Mid Latitude; 2 - High Latitude	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		

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										ERR_FLOAT32_FILL	-999.5
										ELLIPSOID_FLOAT32_FILL	-999.4
										VDNE_FLOAT32_FILL	-999.3

SnowIceCode — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Snow/Ice Code	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

TerrainPressure — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Terrain (ground) pressure	0	MIN_VAL	MAX_VAL	Atm	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

D-PairTotalO3 — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Total ozone amount derived from the D-pair of wavelengths	0	MIN_VAL	MAX_VAL	milli-atm-cm (DU)	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

SO2index — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1

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		EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Sulfur Dioxide Index	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

BPrime-PairTotalO3 — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Total ozone amount derived from the B Prime Pair of wavelengths	0	MIN_VAL	MAX_VAL	milli-atm-cm (DU)	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

N_Values_InterpolatedToSBUVmon — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_NVALUE_FROM_NP_SPEC_SIZE	No	No	8	8

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
N values interpolated from the radiances from the 147 wavelengths of the NP sensor to the SBUV/2 profiling wavelengths (for SBUV/2 were the n-values of the profiling wavelengths)	0	MIN_VAL	MAX_VAL	N Value	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

FirstGuessO3Profile — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_EDR_UMKEHR_LAYERS	No	No	12	12

Datum

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		Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
		First guess profile for layers	0	MIN_VAL	MAX_VAL	milli-atm-cm (DU)	No		32-bit floating point	Name	Value	Name	Value
										NA_FLOAT32_FILL	-999.9		
										MISS_FLOAT32_FILL	-999.8		
										ERR_FLOAT32_FILL	-999.5		
										ELLIPSOID_FLOAT32_FILL	-999.4		
										VDNE_FLOAT32_FILL	-999.3		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
FirstGuessTotalO3	4byte(s)	EDR_SCANS_PER_GRANULE	Yes	No	1	1
		EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Total ozone for first guess	0	MIN_VAL	MAX_VAL	milli-atm-cm (DU)	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
QValues	4byte(s)	EDR_SCANS_PER_GRANULE	Yes	No	1	1
		EDR_FOVS	No	No	1	1
		NP_EDR_COND_UMKEHR_LAYERS	No	No	10	10

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Q-Value corrected for multiple scattering and surface reflectivity (listed in order from shorter to longer wavelengths - 255.5 to 317.5 nm)	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
InitialResiduals	4byte(s)	EDR_SCANS_PER_GRANULE	Yes	No	1	1
		EDR_FOVS	No	No	1	1
		NP_EDR_COND_UMKEHR_LAYERS	No	No	10	10

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Initial residues of Q-Values	0	MIN_VAL	MAX_VAL	percent	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

														ELLIPSOID_FLOAT32_FILL	-999.4
														VDNE_FLOAT32_FILL	-999.3

QValuesCorrectionsLonger — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_EDR_TC_SPECTRUM_SIZE	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Correction to Q-Values (pressure levels) for the five longer wavelength channels due to Multiple Scattering and Reflectivity (MSR); Listed from shorter to longer wavelength	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

ReflectivitiesLonger — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_EDR_TC_SPECTRUM_SIZE	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Monochromator reflectivities for the five longer wavelengths; Listed from shorter to longer wavelength (297.5nm to 317.5nm)	0	MIN_VAL	MAX_VAL	percent	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

MultipleScatteringSensitivity — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_EDR_TC_SPECTRUM_SIZE	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Multiple scattering sensitivity for five longer wavelength (297.5 to 317.5 nm)	0	MIN_VAL	MAX_VAL	(Q-Value)/DU	No		32-bit floating point	NA_FLOAT32_FILL	-		

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

											999.9
										MISS_FLOAT32_FILL	-999.8
										ERR_FLOAT32_FILL	-999.5
										ELLIPSOID_FLOAT32_FILL	-999.4
										VDNE_FLOAT32_FILL	-999.3

MultipleScatteringMix — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_EDR_TC_SPECTRUM_SIZE	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Multiple scattering mixing fraction - The mixing fraction which parameterizes contributions of lower and higher latitude profiles in determination of MSR radiance from lookup tables	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

FinalQValueResidues — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_EDR_COND_UMKEHR_LAYERS	No	No	10	10

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Final residues of Q-Values (percent) derived using obtained from final solution profile; Listed from shorter to longer wavelength (255.5nm to 317.5nm)	0	MIN_VAL	MAX_VAL	percent	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

FinalO3Profile — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_EDR_UMKEHR_LAYERS	No	No	12	12

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Solution profile individual ozone amounts (matm-cm) in 12 SBUV layers (SBUV layer 1 first)	0	MIN_VAL	MAX_VAL	milli-atm-cm (DU)	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

FinalO3Profile_Std — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_EDR_UMKEHR_LAYERS	No	No	12	12

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Standard deviations for solution profile individual ozone amounts (%) in 12 SBUV layers	0	MIN_VAL	MAX_VAL	Percent	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

TotalO3SolutionProfile — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Total ozone for solution profile (above 1 atm)	0	MIN_VAL	MAX_VAL	milli-atm-cm (DU)	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

OzoneErrorFlagforProfile — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum	Unscaled Valid	Unscaled Valid	Measurement	Scale	Scale Factor	Data Type	Fill Values	Legend

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

			Offset	Range Min	Range Max	Units	d	Name			Entries
		Ozone Error Flag for Profile (0 = Good Ascending, 10=Good Descending)	0	0	20	unitless	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 Name: MISS_FLOAT32_FILL, Value: -999.8 Name: ERR_FLOAT32_FILL, Value: -999.5 Name: ELLIPSOID_FLOAT32_FILL, Value: -999.4 Name: VDNE_FLOAT32_FILL, Value: -999.3	Name: Value:

CParameter — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
C parameter for c-sigma calculation. Represents the ratio of atmospheric scale height to the ozone scale height in C-Sigma validity check; Sigma should range from 0.3 to 0.8 or an error code is assigned.	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 Name: MISS_FLOAT32_FILL, Value: -999.8 Name: ERR_FLOAT32_FILL, Value: -999.5 Name: ELLIPSOID_FLOAT32_FILL, Value: -999.4 Name: VDNE_FLOAT32_FILL, Value: -999.3	Name: Value:

SigmaParameter — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Sigma parameter for c-sigma calculation. Represents the ratio of atmospheric scale height to the ozone scale height in C-Sigma validity check; Sigma should range from 0.3 to 0.8 or an error code is assigned.	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 Name: MISS_FLOAT32_FILL, Value: -999.8 Name: ERR_FLOAT32_FILL, Value: -999.5 Name: ELLIPSOID_FLOAT32_FILL, Value: -999.4 Name: VDNE_FLOAT32_FILL, Value: -999.3	Name: Value:

O3MixingRatio — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_EDR_EXPAND_UMKEHR_LAYERS	No	No	19	19

Datum

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

		Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
		Volume mixing ratio (from spline interpolation) of ozone at 19 pressure levels in order of increasing atmospheric pressure (0.3 mb to 100 mb)	0	MIN_VAL	MAX_VAL	ppmv	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
										NA_FLOAT32_FILL	-999.9		
										MISS_FLOAT32_FILL	-999.8		
										ERR_FLOAT32_FILL	-999.5		
										ELLIPSOID_FLOAT32_FILL	-999.4		
										VDNE_FLOAT32_FILL	-999.3		

FirstGuessO3_Std — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_EDR_UMKEHR_LAYERS	No	No	12	12

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Standard deviations of first guess (a priori) profile individual ozone amounts (%) in 12 layers (SBUV layer 1 first)	0	MIN_VAL	MAX_VAL	Percent	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

QValues_Std — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1
NP_EDR_COND_UMKEHR_LAYERS	No	No	10	10

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Standard deviations for Q-values corrected for multiple scattering and reflectivity (255.5 nm through 317.5 nm) in %	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

Iterations — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

EDR_FOVS	No	No	1	1		

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Number of iterations for profile solution	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 MISS_FLOAT32_FILL, -999.8 ERR_FLOAT32_FILL, -999.5 ELLIPSOID_FLOAT32_FILL, -999.4 VDNE_FLOAT32_FILL, -999.3	Name, Value

VolcanoContaminationIdx — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Volcano Contamination Index (VCI): Can be used to whether the derived profiles below 5 mb are incorrect because of scattering by aerosols. VCI are in units of the climatological standard deviation of the tropospheric ozone value for a given latitude.	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 MISS_FLOAT32_FILL, -999.8 ERR_FLOAT32_FILL, -999.5 ELLIPSOID_FLOAT32_FILL, -999.4 VDNE_FLOAT32_FILL, -999.3	Name, Value

D-PairSensitivity — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
D pair sensitivity	0	MIN_VAL	MAX_VAL	(N-Value)/DU	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 MISS_FLOAT32_FILL, -999.8 ERR_FLOAT32_FILL, -999.5 ELLIPSOID_FLOAT32_FILL, -999.4 VDNE_FLOAT32_FILL, -999.3	Name, Value

BPrime-PairSensitivity — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
B Prime pair sensitivity	0	MIN_VAL	MAX_VAL	(N-Value)/DU	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 MISS_FLOAT32_FILL, -999.8 ERR_FLOAT32_FILL, -999.5	Name, Value

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

												ELLIPSOID_FLOAT32_FILL	-999.4	
												VDNE_FLOAT32_FILL	-999.3	

SAA — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Spacecraft within South Atlantic Anomaly (extent in percent based on Climatological data)	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char			0% <= SAA <= 10%	0
										10% < SAA <= 20%	1
										20% < SAA <= 30%	2
										30% < SAA <= 40%	3
										40% < SAA <= 50%	4
										50% < SAA <= 60%	5
										60% < SAA <= 70%	6
										70% < SAA <= 80%	7
										SAA > 80%	8

SunGlint — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Sun glint indication (scattering angle and surface type thresholds)	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char			False	0
										True	1

SolarEclipse — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
EDR_SCANS_PER_GRANULE	Yes	No	1	1
EDR_FOVS	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
All or part of the IFOV is affected by a solar eclipse, umbra or penumbra viewing.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char			False	0
										True	1

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

5.1.3 Ozone Nadir Profile EDR HDF5 Details

Figure 5.1.3-1, Ozone Nadir Profile UML Diagram, provides details on the contents and data types of the Ozone Nadir Profile product. This UML provides details at the product level detail only. In addition to this UML, refer to Figure 3.1-1 Generalized UML Diagram for statically sized HDF5 IP/EDR Files, for a complete UML rendering of this product.

OMPS-NP-EDR
+NormalizedRadiance_380nm : H5T_NATIVE_FLOAT
+NormalizedRadiance_340nm_331nm_318nm_312nm : H5T_NATIVE_FLOAT
+Wavelengths : H5T_NATIVE_FLOAT
+A-PairTotalO3 : H5T_NATIVE_FLOAT
+A-PairSensitivity : H5T_NATIVE_FLOAT
+A-PairReflectivity : H5T_NATIVE_FLOAT
+A-PairWeight : H5T_NATIVE_FLOAT
+B-PairTotalO3 : H5T_NATIVE_FLOAT
+B-PairSensitivity : H5T_NATIVE_FLOAT
+B-PairReflectivity : H5T_NATIVE_FLOAT
+B-PairWeight : H5T_NATIVE_FLOAT
+ColumnAmountO3 : H5T_NATIVE_FLOAT
+C-PairTotalO3 : H5T_NATIVE_FLOAT
+ReflSurfPressure : H5T_NATIVE_FLOAT
+BestReflectivity : H5T_NATIVE_FLOAT
+C-PairSensitivity : H5T_NATIVE_FLOAT
+OzoneErrorFlagforBestOzone : H5T_NATIVE_FLOAT
+tableIndex : H5T_NATIVE_FLOAT
+SnowIceCode : H5T_NATIVE_FLOAT
+TerrainPressure : H5T_NATIVE_FLOAT
+D-PairTotalO3 : H5T_NATIVE_FLOAT
+SO2index : H5T_NATIVE_FLOAT
+BPrime-PairTotalO3 : H5T_NATIVE_FLOAT
+N_Values_InterpolatedToSBUVmon : H5T_NATIVE_FLOAT
+FirstGuessO3Profile : H5T_NATIVE_FLOAT
+FirstGuessTotalO3 : H5T_NATIVE_FLOAT
+QValues : H5T_NATIVE_FLOAT
+InitialResiduals : H5T_NATIVE_FLOAT
+QValuesCorrectionsLonger : H5T_NATIVE_FLOAT
+ReflectivitiesLonger : H5T_NATIVE_FLOAT
+MultipleScatteringSensitivity : H5T_NATIVE_FLOAT
+MultipleScatteringMix : H5T_NATIVE_FLOAT
+FinalQValueResidues : H5T_NATIVE_FLOAT
+FinalO3Profile : H5T_NATIVE_FLOAT
+FinalO3Profile_Std : H5T_NATIVE_FLOAT
+TotalO3SolutionProfile : H5T_NATIVE_FLOAT
+OzoneErrorFlagforProfile : H5T_NATIVE_FLOAT
+CParameter : H5T_NATIVE_FLOAT
+SigmaParameter : H5T_NATIVE_FLOAT
+O3MixingRatio : H5T_NATIVE_FLOAT
+FirstGuessO3_Std : H5T_NATIVE_FLOAT
+QValues_Std : H5T_NATIVE_FLOAT

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

OMPS-NP-EDR
+Iterations : H5T_NATIVE_FLOAT +VolcanoContaminationIdx : H5T_NATIVE_FLOAT +D-PairSensitivity : H5T_NATIVE_FLOAT +BPrime-PairSensitivity : H5T_NATIVE_FLOAT +SAA : H5T_NATIVE_UCHAR +SunGlint : H5T_NATIVE_UCHAR +SolarEclipse : H5T_NATIVE_UCHAR

Figure: 5.1.3-1 Ozone Nadir Profile EDR UML Diagram

5.1.4 Ozone Nadir Profile EDR Metadata Details

The HDF5 metadata elements associated with the Ozone Nadir Profile are listed in the JPSS Algorithm Specification Vol. II: Data Dictionary for the Common Algorithms, 474-00448-02-01. The Nadir Ozone Profile metadata includes all common metadata at the root, product, aggregation, and granule levels. In addition to the common metadata items for this product, Table 5.1.4-1, Ozone Nadir Profile Quality Summary Metadata Values, provides the following items as name/value pairs.

Table: 5.1.4-1 Ozone Nadir Profile EDR Quality Summary Metadata Values

N_Quality_Summary			
Name	**Value**	**Description**	**Comments**
OMPS NP Summary Quality	0 - 100	Percent of retrievals with high quality	
OMPS NP Input Data Quality	0 - 100	Percent of retrievals affected by poor input data	

5.1.5 Ozone Nadir Profile EDR Geolocation Details

Ozone Nadir Profile EDR is produced on the OMPS NP SDR Geolocation. See the JPSS Algorithm Specification Volume II: Data Dictionary for the OMPS NP RDR/SDR (474-00448-02-05), Sections 6.2.1.7 for details.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6 Ancillary and Auxiliary Data Inputs

Not Applicable

7 Look-up Tables and Processing Coefficient Tables

The template used for these formats in this document is described below.

Data Mnemonic: This is a unique identifier. JPSS CDFCB-X Vol. I, 474-00001-01 describes the data mnemonic definition methodology.

Description/Purpose: A brief description of the data format and its purpose.

Instrument: Identification of the Instrument associated with the table.

File-Naming Construct: A description of the file-naming constructs for those data units that apply. JPSS CDFCB-X Vol. I, 474-00001-01 defines file-naming conventions.

File Size: The size of the data file.

File Format Type: The format type of the data file.

Production Frequency: Production frequency is the interval of time for data generation. A production frequency equal to dynamic implies that it is only as requested or as needed.

Data Format/Structure: This defines the actual data format. The definitions provide information for every data element in the data unit.

The following rules apply to all tables:

1. All field names mandatory, unless specified otherwise.
2. Fill data is specified, where applicable.
3. Strings are left-aligned and integers are right-aligned, unless specified otherwise.
4. For information regarding Coordinated Universal Time (UTC) and IDPS Epoch Time (IET) conventions, see the JPSS CDFCB-X Vol. I, 474-00001-01.
5. For all references of the ASCII Standard, the corresponding International Standards Organization (ISO) standard is ISO/IEC 10646. The specific Unicode is UTF8, unless stated otherwise.
6. The fields are presented in order (either top – down or most significant first), unless stated otherwise.

7.1 Look-up Tables

Algorithm Look-up Table (LUT) files contain tables of pre-computed values used in lieu of real-time algorithm computations to reduce processing resource demands. Table values are typically the result of RTM executions and other environmental model simulations. These data generally cover broad, multi-dimensional parameter spaces which are unique to each algorithm.

7.1.1 Ozone Nadir Profile LUTs

7.1.1.1 OMPS Nadir Profile Initialization LUT

Data Mnemonic	NP_NU-LM0240-126
Description/ Purpose	The OMPS Nadir Profile LUT contains parameters used for OMPS Nadir Profile processing.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	This file is used in the OMPS Nadir Profile algorithm
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table – see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table: 7.1.1.1-1 OMPS NP LUT Data Format for size.
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.1.1.1-1, OMPS NP LUT Data Format

Table: 7.1.1.1-1 OMPS NP LUT Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
record_id	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	
wlen0	52	32-bit floating point	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array: BAND_WAVE_MAX Size of Dimension(s): 13
alfa0	52	32-bit floating point	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array: BAND_WAVE_MAX Size of Dimension(s): 13
beta	52	32-bit floating point	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array: BAND_WAVE_MAX Size of Dimension(s): 13
qlog	9200	32-bit floating point	MIN_VAL - MAX_VAL	unitless	4 Dimensional Array: SZA_MAX x PROFILE_MAX x WAVE_QLOG_MAX x PRESSURE_MAX Size of Dimension(s): 10 x 23 x 5 x 2
qslog	9200	32-bit floating point	MIN_VAL - MAX_VAL	unitless	4 Dimensional Array: SZA_MAX x PROFILE_MAX x WAVE_QLOG_MAX x PRESSURE_MAX Size of Dimension(s): 10 x 23 x 5 x 2
fract	9200	32-bit floating point	MIN_VAL - MAX_VAL	unitless	4 Dimensional Array: SZA_MAX x PROFILE_MAX x WAVE_QLOG_MAX x PRESSURE_MAX Size of Dimension(s): 10 x 23 x 5 x 2
sbt	920	32-bit floating point	MIN_VAL - MAX_VAL	unitless	3 Dimensional Array: PROFILE_MAX x WAVE_QLOG_MAX x PRESSURE_MAX Size of Dimension(s): 23 x 5 x 2

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
xlogi0	11040	32-bit floating point	MIN_VAL - MAX_VAL	unitless	4 Dimensional Array: SZA_MAX x PROFILE_MAX x WAVE_IO_MAX x PRESSURE_MAX Size of Dimension(s): 10 x 23 x 6 x 2
tbyi0	11040	32-bit floating point	MIN_VAL - MAX_VAL	unitless	4 Dimensional Array: SZA_MAX x PROFILE_MAX x WAVE_IO_MAX x PRESSURE_MAX Size of Dimension(s): 10 x 23 x 6 x 2
sb	1104	32-bit floating point	MIN_VAL - MAX_VAL	unitless	3 Dimensional Array: PROFILE_MAX x WAVE_IO_MAX x PRESSURE_MAX Size of Dimension(s): 23 x 6 x 2
profn	1012	32-bit floating point	MIN_VAL - MAX_VAL	unitless	2 Dimensional Array: ATMOSPHERIC_LAYER_MAX x PROFILE_MAX Size of Dimension(s): 11 x 23
profs	1012	32-bit floating point	MIN_VAL - MAX_VAL	unitless	2 Dimensional Array: ATMOSPHERIC_LAYER_MAX x PROFILE_MAX Size of Dimension(s): 11 x 23
	576	32-bit floating point	MIN_VAL - MAX_VAL	unitless	2 Dimensional Array: COV_ARRAY_MAX x COV_ARRAY_MAX Size of Dimension(s): 12 x 12
File Size	**54,464 Bytes**				

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

7.2 Processing Coefficient Tables

The S-NPP/JPSS-1 ground system data product generation subsystem uses Processing Coefficient Table (PCT) file parameters. PCT files can be either Automated or Manual coefficient tables. Within the Manual table type are two coefficient classes: Initial and Ephemeral. Sections below describe all three and any tables of that type for the product.

7.2.1 Automated Processing Coefficients

Automated Processing Coefficient (PC) files contain parameters updated and/or created during the processing of the S-NPP/JPSS Data Products by the processing algorithms. The processing environment subsequently uses these files without human review of their contents. Files can be used immediately after creation or in future processing such as the next granule in the production data stream processing.

7.2.1.1 Ozone Nadir Profile Automated PCs

Ozone Nadir Profile product generation currently uses no Automated PCs.

7.2.2 Manual Processing Coefficients

Manual Processing Coefficient (PC) files contain parameters used for S-NPP/JPSS Data Product generation which require human review prior to operational processing environment insertion. Manual Processing Coefficients have two classes:

Initialization PCTs contain infrequently updated initial parameters sets S-NPP/JPSS uses for data product generation.

Ephemeral PCTs contain frequently updated parameters sets S-NPP/JPSS uses for data product generation.

Ozone Nadir Profile product generation currently uses no Manual PCs.

7.2.2.1 OMPS Nadir Profile Ephemeral PCT

OMPS Nadir Profile product generation currently uses no Ephemeral PCs.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Appendix A. Data Mnemonic to Interface Mapping

For a complete list of Data Mnemonic to Interface Mapping, see 474-00001-01, JPSS CDFCB-X Vol I. The CDFCB contains Data Mnemonics, Identifiers, Collection Short Names, Interface Documents, and Collection Long Names for each JPSS Data Product and Geolocation data.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Appendix B. DQTT Quality Flag Mapping

The following table maps the quality flags by product that are reportable to the associated data product quality flag Test ID used in the processing environment.

Table: B-1 DQTT Quality Flag Mapping

Algorithm	Product	TestID	Quality Flag
OMPS NP EDR	OMPS-NP-EDR	1800	Nadir Profile Product Quality
OMPS NP EDR	OMPS-NP-EDR	1801	Input Data Summary

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Appendix C. Abbreviations and Acronyms

See 470-00041 JPSS Program Lexicon for abbreviations and acronyms.

Attachment A. XML Formats for Related Products

Table: ATT-1 XML Formats for Related Products

File Number	File name
1	474-00448-02-22_JPSS-Ozone-NP-DD-Part-22_0200B_OMPS-NP-EDR-PP.xml
2	474-00448-02-22_JPSS-Ozone-NP-DD-Part-22_0200B_OMPS-NP-Ave-Ker-IP-PP.xml

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.