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Joint Polar Satellite System (JPSS) Algorithm Specification
Volume I: Software Requirement Specification (SRS) for the
Vegetation Index
JPSS Review/Approval Page

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Preface

This document is under JPSS Ground Project 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
NASA/GSFC
Code 474
Greenbelt, MD 20771
## Change History Log

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<th>Description of Changes (Reference the CCR &amp; CCB/ERB Approve Date)</th>
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Table: 3-1 Systems Resource Flow Matrix: Vegetation Index
1 Introduction

The Joint Polar Satellite System (JPSS) is the National Oceanic and Atmospheric Administration's (NOAA) next-generation operational Earth observation program that acquires and distributes global environmental data primarily from multiple polar-orbiting satellites. The program plays a critical role in NOAA's mission to understand and predict changes in weather, climate, oceans and coasts, and the space environment, which support the Nation's economy and protect lives and property. The first JPSS satellite mission, the Suomi National Polar-orbiting Partnership (S-NPP) satellite, successfully launched in October 2011. S-NPP, along with the legacy NOAA Polar Operational Environmental Satellites (POES), provides continuous environmental observations. Two JPSS satellites will follow S-NPP: JPSS-1, planned for launch in fiscal year (FY) 2017, with JPSS-2 to follow in FY2021. In the future, the JPSS Polar Follow-On (PFO) provides for two additional missions, JPSS-3 and JPSS-4, as follow-on to the JPSS-2 mission to extend the JPSS Program lifecycle out to 2038.

In addition to the JPSS Program's own satellites operating in the 1330 (±10) Local Time of the Ascending Node (LTAN) orbit, NOAA also leverages mission partner assets for complete global coverage. These partner assets include the Department of Defense (DoD) Defense Meteorological Satellite Program (DMSP) operational weather satellites (in the 1730 - 1930 LTAN orbit), the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) Meteorological Operational (Metop) satellites (in the 2130 LTAN orbit) and the Japanese Aerospace Exploration Agency (JAXA) Global Change Observation Mission-Water (GCOM-W) satellite (in the 1330 LTAN orbit). JPSS routes Metop data from McMurdo Station, Antarctica to the EUMETSAT facility in Darmstadt, Germany and EUMETSAT, in turn, provides Metop data to NOAA. For GCOM, JPSS routes the GCOM-W data from Svalbard, Norway to the NOAA Satellite Operations Facility (NSOF) in Suitland, MD, processes GCOM-W data and delivers GCOM-W products to the JPSS users who have JAXA permissions.

Additionally, the JPSS Program provides data acquisition and routing support to the DMSP and the WindSat Coriolis Program. JPSS routes DMSP data from McMurdo Station to the 557th Weather Wing at Offutt Air Force Base in Omaha, NE. After processing, the 557th releases the DMSP data for public consumption over the Internet via the National Geophysical Data Center in Boulder, CO. The JPSS Program provides data routing support to the National Science Foundation (NSF), as well as the National Aeronautics and Space Administration (NASA) Space Communications and Navigation (SCaN)-supported missions, which include the Earth Observing System (EOS). As part of the agreements for the use of McMurdo Station, JPSS provides communications/network services for the NSF between McMurdo Station, Antarctica and Centennial, Colorado.

As a multi-mission ground infrastructure, the JPSS Ground System supports the heterogeneous constellation of the before-mentioned polar-orbiting satellites both within and outside the JPSS Program through a comprehensive set of services as listed in Table 1-1.

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### 1.1 Identification

This SRS provides requirements for the VIIRS Vegetation Index EDR, containing top-of-atmosphere normalized difference vegetation index (NDVI), top-of-canopy NDVI, and top-of-canopy enhanced vegetation index (EVI). Vegetation indices have both qualitative and quantitative applications. Qualitatively, they provide a means of separating vegetation from other surface types, and they also give a general indication of the “greenness” within a given region—a combined measure of the health, density, and type of vegetation present. If retrievals are made consistently, adjusted for the bidirectional reflectance distribution function and atmospheric effects, the changes in vegetation indices can be analyzed quantitatively, both seasonally and in the longer term. Vegetation indices can also be used to estimate real-world quantities such as leaf area index (LAI) and chlorophyll absorption. These parameters may be used as inputs to biogeochemical cycle models.

### 1.2 Algorithm Overview

The vegetation indices are produced from VIIRS visible and near-IR reflective bands. The top-of-atmosphere NDVI is obtained from a normalized difference of I1 and I2. The top-of-canopy EVI is a refined index incorporating I1, I2, M3 as well as parameterizations of soil and atmospheric effects. The top-of-canopy NDVI is a new output for JPSS-1.

The worth of an operational vegetation index product has already been demonstrated with the heritage of the NDVI. The NDVI forms the central foundation of the Global Vegetation Index (GVI) product maintained by the National Oceanic and Atmospheric Administration (NOAA).

The VIIRS Vegetation Index (VVI) shall consist of several output products. In addition to meeting the requirements presented in the VIIRS sensor requirements, there are six primary scientific objectives underlying the retrieval of the VVI products:

1. To provide a global database of accurately measured vegetation indices, leaf area index (LAI), fraction of absorbed photosynthetically active radiation (FPAR), net photosynthesis (PSN), and annual net primary production (NPP) which can be utilized to conduct studies of the spatial and temporal variability of vegetation

2. To provide regional data of accurately measured vegetation indices, LAI, FPAR, PSN, and NPP which can be used to further the understanding of vegetation-related processes and the coupling of vegetation with local and large-scale climate
3. To provide accurate inputs for the continual production of land cover and land cover change maps at a spatial scale sufficient to detect the effects of droughts, floods, fires, and anthropogenic activity.

4. To provide accurate inputs for the calculation of surface wetness or soil moisture as a derived VIIRS product.

5. To continue the climatology of vegetation indices which has been built upon Advanced Very High Resolution Radiometer (AVHRR) NDVI products and further enhanced by data from the Moderate Resolution Imaging Spectroradiometer (MODIS)

6. To provide biophysical parameters which are of sufficient quality to enhance the performance of biogeochemical cycle models.

1.3 Document Overview

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Section 1</td>
<td>Introduction - Provides a brief overview of the JPSS Ground System and the relevant algorithm, as reference material only.</td>
</tr>
<tr>
<td>Section 2</td>
<td>Related Documentation - Lists related documents and identifies them as Parent, Applicable, or Information Documents such as, MOAs, MOUs, technical implementation agreements, as well as Data Format specifications. This section also establishes an order of precedence in the event of conflict between two or more documents.</td>
</tr>
<tr>
<td>Section 3</td>
<td>Algorithm Requirements - Provides a summary of the science requirements for the products covered by this volume.</td>
</tr>
<tr>
<td>Appendix A</td>
<td>Requirements Attributes - Provides the mapping of requirements to verification methodology and attributes.</td>
</tr>
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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.

<table>
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<tr>
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<tr>
<td>470-00067</td>
<td>Joint Polar Satellite System (JPSS) Ground System Requirements Document (GSRD)</td>
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</table>

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.

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<td>D0001-M01-S01-025</td>
<td>Joint Polar Satellite System (JPSS) VIIRS Vegetation Index (VVI) Algorithm Theoretical Basis Document (ATBD)</td>
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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.

<table>
<thead>
<tr>
<th>Doc. No.</th>
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<tr>
<td>474-00054</td>
<td>Joint Polar Satellite System (JPSS) Ground System (GS) Concept of Operations (ConOps)</td>
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3 Algorithm Requirements

3.1 States and Modes

3.1.1 Normal Mode Performance

SRS.01.18_181 The Vegetation Index EDR algorithms shall calculate the vegetation indices with a horizontal cell size (HCS) of 0.4 km and measure the performance with a HCS of 4.0 km.

Rationale: The horizontal cell size (HCS) was flowed down from the Level 1 and Level 2 documents. The Vegetation Index product is generated at the 0.4 km pixel resolution but the performance of the product is to be met at the HCS of 4 km. The VI product uses an average of 100 pixels.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_182 The Vegetation Index EDR algorithms shall calculate the vegetation indices with a 3-sigma mapping uncertainty of 4 km.

Rationale: The mapping uncertainty was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_183 The Vegetation Index EDR algorithm shall calculate the TOA NDVI with a measurement accuracy of 0.05 NDVI units.

Rationale: The measurement accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_184 The Vegetation Index EDR algorithm shall calculate the TOA NDVI with a measurement precision of 0.04 NDVI units.

Rationale: The measurement precision was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_185 The Vegetation Index EDR algorithm shall calculate the TOC EVI with a measurement accuracy of 0.05 EVI units.

Rationale: The measurement accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_186 The Vegetation Index EDR algorithm shall calculate the TOC EVI with a measurement precision of 0.04 EVI units.

Rationale: The measurement precision was flowed down from the Level 1 and Level 2 documents.
Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_187 The Vegetation Index EDR software shall process for vegetation index product generation all available SDR data with available refresh and coverage rates.

Rationale: The EDR should be as complete as the data available can make it.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_246 The Vegetation Index EDR algorithm shall calculate the TOC NDVI with a measurement accuracy of 0.05 NDVI units.

Rationale: The measurement accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_247 The Vegetation Index EDR algorithm shall calculate the TOC NDVI with a measurement precision of 0.04 NDVI units.

Rationale: The measurement precision was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.1.2 Graceful Degradation Mode Performance
Not applicable.

3.2 Algorithm Functional Requirements

3.2.1 Product Production Requirements

SRS.01.18_174 The Vegetation Index EDR software shall incorporate a computing algorithm provided for top-of-atmosphere normalized-difference vegetation index (TOA NDVI).

Rationale: The EDR software through its computing algorithm must produce TOA NDVI in accordance with the JPSS VIIRS Vegetation Index ATBD (D0001-M01-S01-025).

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_175 The Vegetation Index EDR software shall incorporate a computing algorithm provided for top-of-canopy enhanced vegetation index (TOC EVI).

Rationale: The EDR software through its computing algorithm must produce TOC EVI in accordance with the JPSS VIIRS Vegetation Index ATBD (D0001-M01-S01-025).

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_248 The Vegetation Index EDR software shall incorporate a computing algorithm provided for top-of-canopy normalized-difference vegetation index (TOC NDVI).
**Rationale:** The EDR software through its computing algorithm must produce TOC NDVI in accordance with the JPSS VIIRS Vegetation Index ATBD (D0001-M01-S01-025).

**Mission Effectivity:** S-NPP, JPSS-1, JPSS-2

### 3.2.2 Algorithm Science Requirements

Not applicable.

### 3.2.3 Algorithm Exception Handling

SRS.01.18_176 The Vegetation Index EDR software shall set each \(<FillField>\) to \(<FillValue>\) according to \(<FillCondition>\) specified in the JPSS Algorithm Specification Volume IV: SRSPF for the Vegetation Index, (474-00448-04-18) \(<\text{VegIndexEDR}>fill\>\).

**Rationale:** The SDR software through its computing algorithm must fill the Vegetation Index EDR values based on the established fill conditions to satisfy exclusion and fill conditions.

**Mission Effectivity:** S-NPP, JPSS-1, JPSS-2

### 3.3 External Interfaces

#### 3.3.1 Inputs

SRS.01.18_179 The Vegetation Index EDR software shall incorporate inputs per Table 3-1.

**Rationale:** The EDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended Vegetation Index products.

**Mission Effectivity:** S-NPP, JPSS-1, JPSS-2

SRS.01.18_249 The Vegetation Index EDR software shall ingest tables and coefficients formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for Vegetation Index (474-00448-02-18).

**Rationale:** This defines the formats for Lookup Tables, and Processing Coefficients for input into the algorithm module.

**Mission Effectivity:** S-NPP, JPSS-1, JPSS-2

Table 3-1 and Figure 3-1 are best viewed together since they describe the processes governed by this SRS in different ways. The figure diagrams the data flowing into, out of, and within the code governed by this SRS. The table lists these same data interactions as well as all downstream dependencies for outputs from this SRS.

Each row in the table describes a single software interaction - data flowing from one software item to another. The data is listed in the first column. The second and third column includes short name and the mnemonic for the data. Blanks indicate there is no mnemonic. The fourth (Source SRS) and fifth (Receiving SRS) columns contain the SRS that generates the data product(s) in the first column, and the SRS that receives those products. The final two columns (Sending Function and Receiving Function) contain the actual function name in Algorithm Development.
Library (ADL) that produces those products, and the function that inputs those products. The SRS’s titled “Ingest MSD” and “Store/Retrieve” are non-existent SRS’s functioning as data handling for the IDPS. The software functions “Store Products” and “Retrieve Products” are similar non-existent functions that operate as IDPS data handling.

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Block/Revision 0200D

Effective Date: September 22, 2016

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Figure: 3-1 Vegetation Index Data Flows

Table: 3-1 Systems Resource Flow Matrix: Vegetation Index

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<td>•None&lt;br&gt;•SDRE-VI01-C0030&lt;br&gt;•SDRE-VI02-C0030</td>
<td>Store/Retrieve (VIIRS SDR)</td>
<td>Vegetation Index</td>
<td>Retrieve Products</td>
<td>ProEdrViirs VI</td>
</tr>
<tr>
<td>•VI_Pro_Coeffs</td>
<td>•VIIRS-VI-EDR-AC</td>
<td>•DP_NU-LM2020-031</td>
<td>Anc and Aux Data</td>
<td>Vegetation Index</td>
<td>Auxiliary Data - Spacecraft Data and LUTs</td>
<td>ProEdrViirs VI</td>
</tr>
<tr>
<td>•VIIRS-VI-EDR-DQTT</td>
<td>•VIIRS-VI-EDR-DQTT</td>
<td>•DP_NU-LM2030-000</td>
<td>Anc and Aux Data</td>
<td>Vegetation Index</td>
<td>Auxiliary Data - Spacecraft Data and LUTs</td>
<td>ProEdrViirs VI</td>
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<td>•VIIRS-Aeros-Opt-Thickness/IP</td>
<td>•IMPI_VAO_T_R0100</td>
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<td>•VIIRS-Surf-Reflect/IP&lt;br&gt;•VIIRS-VI-EDR&lt;br&gt;•VIIRS-VI-EDR-DQN</td>
<td>•IMPI_VISR_R0100&lt;br&gt;•EDRE-VRVI-C0030&lt;br&gt;•DP_NU-L00510-000</td>
<td>Surface Reflectance</td>
<td>Vegetation Index</td>
<td>Store/Retrieve</td>
<td>ProEdrViirs VI</td>
</tr>
</tbody>
</table>

3.3.2 Outputs

SRS.01.18_177 The Vegetation Index EDR software shall generate the Vegetation Index EDR product in conformance with the XML format file in Attachment A.1 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Vegetation Index (474-00448-02-18).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_178 The Vegetation Index EDR software shall use the terrain-corrected geolocation for the VIIRS I-band.

Rationale: The geolocation product must be generated with the EDR product.
Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.4 Science Standards
Not applicable.

3.5 Metadata Output
Not applicable.

3.6 Quality Flag Content Requirements
SRS.01.18_188 The Vegetation Index EDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Vegetation Index (474-00448-04-18) <VegIndexEDR><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.
Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.7 Data Quality Notification Requirements
SRS.01.18_180 The Vegetation Index EDR software shall send data quality notifications to the operator according to logic specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Vegetation Index (474-00448-04-18) <VegIndexEDR> <notification>.

Rationale: Notifications must be generated and sent based on the established logic and conditions.
Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.8 Adaptation
Not applicable.

3.9 Provenance Requirements
Not applicable.

3.10 Computer Software Requirements
Not applicable.

3.11 Software Quality Characteristics
Not applicable.

3.12 Design and Implementation Constraints
SRS.01.18_191 The JPSS Common Ground System shall execute the TOA NDVI algorithm.

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Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_192 The JPSS Common Ground System shall execute the TOC EVI algorithm.
Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.18_250 The JPSS Common Ground System shall execute the TOC NDVI algorithm.
Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.13 Personnel Related Requirements
Not applicable.

3.14 Training Requirements
Not applicable.

3.15 Logistics Related requirements
Not applicable.

3.16 Other Requirements
Not applicable.

3.17 Packaging Requirements
Not applicable.

3.18 Precedence and Criticality
Not applicable.
Appendix A. Requirements Attributes

The Requirements Attributes Table lists each requirement with CM-controlled attributes including requirement type, mission effectivity, requirement allocation(s), block start and end, method(s) for verifying each requirement, etc.

<table>
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<tr>
<th>Req ID</th>
<th>SRS 18 - Vegetation Index</th>
<th>Level 3 Type</th>
<th>Product Type</th>
<th>Mission Effectivity</th>
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<th>Block End</th>
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<tr>
<td>SRS.01.18_181</td>
<td>The Vegetation Index EDR algorithms shall calculate the vegetation indices with a horizontal cell size (HCS) of 0.4 km and measure the performance with a HCS of 4.0 km.</td>
<td>P</td>
<td>EDR</td>
<td>S-NPP JPSS-1 JPSS-2</td>
<td>algorithm provider</td>
<td>2.0.0</td>
<td>3.0.0</td>
<td>Test</td>
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<td>NA</td>
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<tr>
<td>SRS.01.18_182</td>
<td>The Vegetation Index EDR algorithms shall calculate the vegetation indices with a 3-sigma mapping uncertainty of 4 km.</td>
<td>P</td>
<td>EDR</td>
<td>S-NPP JPSS-1 JPSS-2</td>
<td>algorithm provider</td>
<td>2.0.0</td>
<td>3.0.0</td>
<td>Test</td>
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<td>NA</td>
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<tr>
<td>SRS.01.18_183</td>
<td>The Vegetation Index EDR algorithm shall calculate the TOA NDVI with a measurement accuracy of 0.05 NDVI units.</td>
<td>P</td>
<td>EDR</td>
<td>S-NPP JPSS-1 JPSS-2</td>
<td>algorithm provider</td>
<td>2.0.0</td>
<td>3.0.0</td>
<td>Test</td>
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<td>NA</td>
</tr>
<tr>
<td>SRS.01.18_184</td>
<td>The Vegetation Index EDR algorithm shall calculate the TOA NDVI with a measurement precision of 0.04 NDVI units.</td>
<td>P</td>
<td>EDR</td>
<td>S-NPP JPSS-1 JPSS-2</td>
<td>algorithm provider</td>
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<td>3.0.0</td>
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<tr>
<td>SRS.01.18_185</td>
<td>The Vegetation Index EDR algorithm shall calculate the TOC EVI with a measurement accuracy of 0.05 EVI units.</td>
<td>P</td>
<td>EDR</td>
<td>S-NPP JPSS-1 JPSS-2</td>
<td>algorithm provider</td>
<td>2.0.0</td>
<td>3.0.0</td>
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<tr>
<td>SRS.01.18_186</td>
<td>The Vegetation Index EDR algorithm shall calculate the TOC EVI with a measurement precision of 0.04 EVI units.</td>
<td>P</td>
<td>EDR</td>
<td>S-NPP JPSS-1 JPSS-2</td>
<td>algorithm provider</td>
<td>2.0.0</td>
<td>3.0.0</td>
<td>Test</td>
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<tr>
<td>SRS.01.18_187</td>
<td>The Vegetation Index EDR software shall process for vegetation index product generation all available SDR data with available refresh and coverage rates.</td>
<td>P</td>
<td>EDR</td>
<td>S-NPP JPSS-1 JPSS-2</td>
<td>algorithm provider</td>
<td>2.0.0</td>
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<tr>
<td>SRS.01.18_246</td>
<td>The Vegetation Index EDR algorithm shall calculate the TOC NDVI with a</td>
<td>P</td>
<td>EDR</td>
<td>S-NPP JPSS-1</td>
<td>algorithm provider</td>
<td>2.0.0</td>
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</tr>
</thead>
<tbody>
<tr>
<td>SRS.01.18_247</td>
<td>The Vegetation Index EDR algorithm shall calculate the TOC NDVI with a measurement precision of 0.04 NDVI units.</td>
<td>P</td>
<td>EDR</td>
<td>S-NPP</td>
<td>algorithm provider</td>
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<tr>
<td>SRS.01.18_174</td>
<td>The Vegetation Index EDR software shall incorporate a computing algorithm provided for top-of-atmosphere normalized-difference vegetation index (TOA NDVI).</td>
<td>Ap</td>
<td>EDR</td>
<td>S-NPP</td>
<td>algorithm provider</td>
<td>2.0.0</td>
<td>3.0.0</td>
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<td>NA</td>
<td>NA</td>
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<tr>
<td>SRS.01.18_175</td>
<td>The Vegetation Index EDR software shall incorporate a computing algorithm provided for top-of-canopy enhanced vegetation index (TOC EVI).</td>
<td>Ap</td>
<td>EDR</td>
<td>S-NPP</td>
<td>algorithm provider</td>
<td>2.0.0</td>
<td>3.0.0</td>
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<td>NA</td>
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<tr>
<td>SRS.01.18_248</td>
<td>The Vegetation Index EDR software shall incorporate a computing algorithm provided for top-of-canopy normalized-difference vegetation index (TOC NDVI).</td>
<td>Ap-D</td>
<td>EDR</td>
<td>S-NPP</td>
<td>algorithm provider</td>
<td>2.0.0</td>
<td>3.0.0</td>
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<td>NA</td>
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<tr>
<td>SRS.01.18_176</td>
<td>The Vegetation Index EDR software shall set each &lt;FillField&gt; to &lt;FillValue&gt; according to &lt;FillCondition&gt; specified in the JPSS Algorithm Specification Volume IV: SRSPF for the Vegetation Index, (474-00448-04-18) &lt;VegIndexEDR&gt;&lt;fill&gt;.</td>
<td>E</td>
<td>EDR</td>
<td>S-NPP</td>
<td>CGS</td>
<td>2.0.0</td>
<td>3.0.0</td>
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<td>NA</td>
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<tr>
<td>SRS.01.18_179</td>
<td>The Vegetation Index EDR software shall incorporate inputs per Table 3-1.</td>
<td>I</td>
<td>EDR</td>
<td>S-NPP</td>
<td>CGS</td>
<td>2.0.0</td>
<td>3.0.0</td>
<td>Inspection</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>SRS.01.18_249</td>
<td>The Vegetation Index EDR software shall ingest tables and coefficients formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for Vegetation Index</td>
<td>Ft</td>
<td>EDR</td>
<td>S-NPP</td>
<td>CGS</td>
<td>2.0.0</td>
<td>3.0.0</td>
<td>Inspection</td>
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<tbody>
<tr>
<td>SRS.01.18_177</td>
<td>The Vegetation Index EDR software shall generate the Vegetation Index EDR product in conformance with the XML format file in Attachment A.1 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Vegetation Index (474-00448-02-18).</td>
<td>F</td>
<td>EDR</td>
<td>S-NPP</td>
<td>CGS</td>
<td>2.0.0</td>
<td>3.0.0</td>
<td>Inspection</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>SRS.01.18_178</td>
<td>The Vegetation Index EDR software shall use the terrain-corrected geolocation for the VIIRS I-band.</td>
<td>Fg</td>
<td>GEO</td>
<td>S-NPP</td>
<td>CGS</td>
<td>2.0.0</td>
<td>3.0.0</td>
<td>Inspection</td>
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<td>NA</td>
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<tr>
<td>SRS.01.18_188</td>
<td>The Vegetation Index EDR software shall report for each &lt;FlagScope&gt; quality flags using &lt;FlagLogic&gt; as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Vegetation Index (474-00448-04-18) &lt;VegIndexEDR&gt;&lt;QF&gt;.</td>
<td>Q</td>
<td>EDR</td>
<td>S-NPP</td>
<td>CGS</td>
<td>2.0.0</td>
<td>3.0.0</td>
<td>Inspection</td>
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<tr>
<td>SRS.01.18_180</td>
<td>The Vegetation Index EDR software shall send data quality notifications to the operator according to logic specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Vegetation Index (474-00448-04-18) &lt;VegIndexEDR&gt;&lt;notification&gt;.</td>
<td>N</td>
<td>EDR</td>
<td>S-NPP</td>
<td>CGS</td>
<td>2.0.0</td>
<td>3.0.0</td>
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<tr>
<td>SRS.01.18_191</td>
<td>The JPSS Common Ground System shall execute the TOA NDVI algorithm.</td>
<td>Ai</td>
<td>EDR</td>
<td>S-NPP</td>
<td>CGS</td>
<td>2.0.0</td>
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<tr>
<td>SRS.01.18_192</td>
<td>The JPSS Common Ground System shall execute the TOC EVI algorithm.</td>
<td>Ai</td>
<td>EDR</td>
<td>S-NPP</td>
<td>CGS</td>
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<td>SRS.01.18_250</td>
<td>The JPSS Common Ground System shall execute the TOC NDVI algorithm.</td>
<td>Ai</td>
<td>EDR</td>
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<td>CGS</td>
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