**Joint Polar Satellite System (JPSS) Ground Project
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Joint Polar Satellite System (JPSS) Algorithm Specification Volume I: Software Requirement Specification (SRS) for the Cryosphere Products

Block 2.0.0

**Goddard Space Flight Center
Greenbelt, Maryland**

National Aeronautics and
Space Administration

Joint Polar Satellite System (JPSS) Algorithm Specification Volume I: Software Requirement Specification (SRS) for the Cryosphere Products
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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
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Change History Log

Revision	Effective Date	Description of Changes (Reference the CCR & CCB/ERB Approve Date)
Rev-	August 22, 2013	This version incorporates 474-CCR-13-1160 which was approved by JPSS Ground ERB on the effective date shown.
A	Jan 30, 2014	This version incorporates 474-CCR-13-1458 which was approved by JPSS Ground ERB on the effective date shown.
A1	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.
B	Nov 20, 2014	This version incorporates 474-CCR-14-1721, 474-CCR-14-1741 and 474-CCR-14-1781, 474-CCR-14-2110 and 474-CCR-14-2102 which was approved by JPSS Ground ERB on the effective date shown.
C	Feb 26, 2016	This version incorporates 474-CCR-15-2452, 474-CCR-15-2480, 474-CCR-15-2657, and 474-CCR-16-2812 which was approved by JPSS Ground ERB on the effective date shown.
0200D	Sep 22, 2016	This version incorporates 474-CCR-16-2939 and 474-CCR-16-3049 which was approved by JPSS Ground ERB on the effective date shown.

Table of TBDs/TBRs

TBx	Type	ID	Text	Action
None				

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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.

Table: 1-1 JPSS Ground System Services

Service	Description
Enterprise Management and Ground Operations	Provides mission management, mission operations, ground operations, contingency management and system sustainment
Flight Operations	Provides launch support and early orbit operations, telemetry and commanding, orbital operations, mission data playback, payload support, flight software upgrade, flight vehicle simulation, and disposal at the end of mission life
Data Acquisition	Provides space/ground communications for acquiring mission data
Data Routing	Provides routing of telemetry, mission and/or operations data through JPSS' global data network
Data Product Generation	Provides the processing of mission data to generate and distribute raw, sensor, environmental, and ancillary data products
Data Product Calibration and Validation	Provides calibration and validation of the data products
Field Terminal Support	Provides development and operational support to the Field Terminal customers

1.1 Identification

This SRS provides requirements for the VIIRS Cryosphere Products, containing Ice Surface Temperature (IST) EDR, Sea Ice Characterization (SIC) (Ice Age) EDR, and related intermediate products (IP) including Ice Surf Temp 1st Guess IP, Ice Weights IP, Ice Quality Flags IP, Ice Concentration IP, and Ice Reflectance/Temperature IP.

1.2 Algorithm Overview

The VIIRS IST algorithm is used for retrieval of the VIIRS IST EDR and the VIIRS Surface Temperature Intermediate Product. It is based on a water vapor correction method. It utilizes brightness temperatures from two of the VIIRS longwave infrared channels (M15 at 10.8 μm and M16 at 12.0 μm). Input data, described in Section 3.3.1, is read in. Pixels within the pre-specified horizontal coverage range are passed into the algorithm units.

The content of the Sea Ice Characterization EDR includes ice concentration, ice age, and related intermediate products. Ice concentration is defined as the fraction of a given area of sea water covered by ice. Sea ice age is defined as the time that has passed since the formation of the surface layer of an ice covered region of the ocean. Input data, described in Section 3.3.1, is read in. Pixels within the pre-specified horizontal coverage range are passed into the ice units. The algorithm consists of three separate software units:

1) Ice Quality

2) Ice Concentration

3) Ice Age

These units are linked in a common software process.

The *Ice Quality* process performs pixel masking and pixel weighting.

The *Ice Concentration* process derives the fractional ice cover of a pixel.

The *Ice Age* process derives the fractional ice cover of a pixel.

1.3   Document Overview

Section	Description
Section 1	Introduction - Provides a brief overview of the JPSS Ground System and the relevant algorithm, as reference material only.
Section 2	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.
Section 3	Algorithm Requirements - Provides a summary of the science requirements for the products covered by this volume.
Appendix A	Requirements Attributes - Provides the mapping of requirements to verification methodology and attributes.

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.

Doc. No.	Document 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 Specification (SPS)
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.

Doc. No.	Document Title
D0001-M01-S01-018	Joint Polar Satellite System (JPSS) VIIRS Ice Surface Temperature Theoretical Basis Document (ATBD)
D0001-M01-S01-016	Joint Polar Satellite System (JPSS) VIIRS Sea Ice Characterization Algorithm Theoretical Basis Document (ATBD)
474-00448-02-17	Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for the Cryosphere Products
474-00448-04-17	Joint Polar Satellite System (JPSS) Algorithm Specification Volume IV: Software Requirements Specification Parameter File (SRSPF) for the Cryosphere Products

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.

Doc. No.	Document Title
474-00333	Joint Polar Satellite System (JPSS) Ground System (GS) Architecture Description Document (ADD)
474-00054	Joint Polar Satellite System (JPSS) Ground System (GS) Concept of Operations (ConOps)

Doc. No.	Document Title
470-00041	Joint Polar Satellite System (JPSS) Program Lexicon
474-00448-03-17	Joint Polar Satellite System (JPSS) Algorithm Specification Volume III: Operational Algorithm Description (OAD) for the Cryosphere Products
429-05-02-42	Joint Polar Satellite System (JPSS) Mission Data Format Control Book for NPP
472-00251	Joint Polar Satellite System (JPSS) Mission Data Format Control Book for JPSS-1

3   Algorithm Requirements

3.1   States and Modes

3.1.1   Normal Mode Performance

SRS.01.17_110 The Ice Surface Temperature EDR algorithm shall calculate the ice surface temperature with a measurement uncertainty of 1K.

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

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.17_111 The Ice Surface Temperature EDR algorithm shall calculate the ice surface temperature with an available refresh of 90% of the globe every 24 hours, averaged monthly.

Rationale: The global coverage through the available refresh constraint was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.17_154 The Sea Ice Characterization EDR algorithm shall calculate the ice age with a measurement uncertainty of 70% probability of correct typing for ice-free, new/young ice, and all other ice.

Rationale: The measurement uncertainty value as probability of correct typing was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.17_155 The Sea Ice Characterization EDR algorithm shall calculate the ice age with an available refresh of 90% of the globe every 24 hours, averaged monthly.

Rationale: The global coverage through the available refresh constraint was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.17_542 The Ice Surface Temperature EDR algorithm shall calculate the ice surface temperature with a horizontal cell size of 1km at nadir and 1.6 km at edge of scan.

Rationale: The horizontal cell size was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.17_543 The Sea Ice Characterization EDR algorithm shall calculate the ice age with a horizontal cell size of 1km at nadir and 1.6 km at edge of scan.

Rationale: The horizontal cell size was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

3.1.2   Graceful Degradation Mode Performance

SRS.01.17_256 The VIIRS Ice Quality Flags IP software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth [750m Granulation] current forecast for fallback processing when the VIIRS aerosol optical thickness IP input is not available.

Rationale: The IP software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

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

SRS.01.17_806 The VIIRS Ice Quality Flags IP software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth [750m Granulation] extended forecast for fallback processing when the VIIRS aerosol optical thickness IP and NAAPS TOD current forecast inputs are not available.

Rationale: The IP software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

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

SRS.01.17_68   The VIIRS Ice Quality Flags IP software shall use GACP Aerosol climatology data for fallback processing when VIIRS AOT IP and NAAPS total optical depth current and extended forecast data are not available.

Rationale: The IP software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

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

SRS.01.17_82   The VIIRS Ice Surface Temperature First Guess IP software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth [750m Granulation] current forecast for fallback processing when the VIIRS aerosol optical thickness IP input is not available.

Rationale: The IP software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

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

SRS.01.17_816 The VIIRS Ice Surface Temperature First Guess IP software shall use GACP Climatology data [750m Granulation] data for fallback processing when the VIIRS aerosol optical thickness IP and NAAPS AOT current and extended forecast inputs are not available.

Rationale: The IP software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

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

SRS.01.17_807 The VIIRS Ice Surface Temperature First Guess IP software shall use GACP Aerosol Climatology data [750m Granulation] data for fallback processing when the VIIRS aerosol optical thickness IP and NAAPS AOT current and extended forecast inputs are not available.

Rationale: The IP software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

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

SRS.01.17_141 The IST EDR software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth current forecast data for fallback processing when the VIIRS AOT IP input is not available.

Rationale: The EDR software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

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

SRS.01.17_808 The IST EDR software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth extended forecast data for fallback processing when the VIIRS AOT IP and NAAPS current forecast input are not available.

Rationale: The EDR software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

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

SRS.01.17_184 The SIC EDR software shall use NCEP extended forecast data for fallback processing when NCEP current data is not available.

Rationale: The EDR software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements. (For sea surface winds, surface pressure, surface air temperature, surface specific humidity, total column perceptible water, and total column ozone).

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

SRS.01.17_185 The SIC EDR software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth current forecast data for fallback processing when the VIIRS AOT IP input is not available.

Rationale: The EDR software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

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

SRS.01.17_817 The SIC EDR software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth extended forecast data for fallback processing when the VIIRS AOT IP and NAAPS current forecast input are not available.

Rationale: The EDR software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

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

SRS.01.17_187 The SIC EDR software shall use GACP Aerosol climatology data for fallback processing when VIIRS AOT optical thickness IP and NAAPS Total Optical Depth [750m Granulation] total optical depth current data and extended forecast are not available.

Rationale: The EDR software through its algorithm must generate products using back up data sources to meet the graceful degradation requirement. These degraded products are not required to meet the algorithm performance requirements.

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

3.2   Algorithm Functional Requirements

3.2.1   Product Production Requirements

Not applicable.

3.2.2   Algorithm Science Requirements

SRS.01.17_40   The VIIRS Ice Weights IP software shall incorporate a computing algorithm provided for ice weights.

Rationale: The IP software through its computing algorithm must produce Ice Weights IP in accordance with the JPSS VIIRS Sea Ice Characterization ATBD (D0001-M01-S01-016).

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

SRS.01.17_85   The VIIRS Ice Concentration IP software shall incorporate a computing algorithm provided for ice fraction.

Rationale: The IP software through its computing algorithm must produce Ice Concentration IP in accordance with the JPSS VIIRS Sea Ice Characterization ATBD (D0001-M01-S01-016).

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

SRS.01.17_87   The VIIRS Ice Concentration IP software shall incorporate a computing algorithm provided for ice concentration weights.

Rationale: The IP software through its computing algorithm must produce Ice Concentration IP in accordance with the JPSS VIIRS Sea Ice Characterization ATBD (D0001-M01-S01-016).

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

SRS.01.17_73   The VIIRS Ice Surface Temperature First Guess IP software shall incorporate a computing algorithm provided for ice surface temperature.

Rationale: The IP software through its computing algorithm must produce Ice Surface Temperature First Guess IP in accordance with the JPSS VIIRS Ice Surface temperature ATBD (D0001-M01-S01-018).

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

SRS.01.17_92   The VIIRS Ice Reflectance/Temperature IP software shall incorporate a computing algorithm provided for I-band ice tie points.

Rationale: The IP software through its computing algorithm must determine I-band Ice tie points in accordance with the JPSS VIIRS Sea Ice Characterization ATBD (D0001-M01-S01-016).

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

SRS.01.17_94   The VIIRS Ice Reflectance/Temperature IP software shall incorporate a computing algorithm provided for surface temperature ice tie points.

Rationale: The IP software through its computing algorithm must determine surface temperature ice tie points in accordance with the JPSS VIIRS Sea Ice Characterization ATBD (D0001-M01-S01-016).

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

SRS.01.17_96   The VIIRS Ice Reflectance/Temperature IP software shall incorporate a computing algorithm provided for local water ice tie points.

Rationale: The IP software through its computing algorithm must determine local water ice tie points in accordance with the JPSS VIIRS Sea Ice Characterization ATBD (D0001-M01-S01-016).

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

SRS.01.17_98   The VIIRS Ice Reflectance/Temperature IP software shall incorporate a computing algorithm provided for local water surface temperature ice tie points.

Rationale: The IP software through its computing algorithm must determine local water surface temperature ice tie points in accordance with the JPSS VIIRS Sea Ice Characterization ATBD (D0001-M01-S01-016).

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

SRS.01.17_100 The VIIRS Ice Reflectance/Temperature IP software shall incorporate a computing algorithm provided for search window quality flags.

Rationale: The IP software through its computing algorithm must determine search window quality flags in accordance with the JPSS VIIRS Sea Ice Characterization ATBD (D0001-M01-S01-016).

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

SRS.01.17_106 The VIIRS Ice Surface Temperature EDR software shall incorporate a computing algorithm provided for ice surface temperature.

Rationale: The EDR software through its computing algorithm must produce ice surface temperature in accordance with the JPSS VIIRS Ice Surface Temperature ATBD (D0001-M01-S01-018).

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

SRS.01.17_149 The VIIRS Sea Ice Characterization EDR software shall incorporate a computing algorithm provided for ice age.

Rationale: The EDR software through its computing algorithm must produce ice age in accordance with the JPSS VIIRS Sea Ice Characterization ATBD (D0001-M01-S01-016).

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

SRS.01.17_157 The VIIRS Sea Ice Characterization EDR software shall incorporate a computing algorithm provided for ice age weighting factors.

Rationale: The EDR software through its computing algorithm must produce ice age weighting factors in accordance with the JPSS VIIRS Sea Ice Characterization ATBD (D0001-M01-S01-016).

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

3.2.3 Algorithm Exception Handling

SRS.01.17_45 The VIIRS Ice Weights IP software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <IceWeightsIP><fill>.

Rationale: The IP software through its computing algorithm must fill the ice weights IP values based on the established fill conditions to satisfy exclusion and fill conditions.

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

SRS.01.17_138 The IST EDR software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <IceSurfTempEDR><fill>.

Rationale: The EDR software through its computing algorithm must fill the ice surface temperature values based on the established fill conditions to satisfy exclusion and fill conditions.

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

SRS.01.17_188 The SIC EDR software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <SeaIceCharEDR><fill>.

Rationale: The EDR software through its computing algorithm must fill the ice age and ice age weight factors 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.01.17_42   The VIIRS Ice Weights IP software shall incorporate inputs as specified in Table 3-1.

Rationale: The IP generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS Ice Weights IP products.

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

SRS.01.17_69   The VIIRS Ice Quality Flags IP software shall incorporate inputs specified in Table 3-1.

Rationale: The IP generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS Ice Quality Flags IP products.

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

SRS.01.17_81   The VIIRS Ice Surface Temperature First Guess IP software shall incorporate inputs specified in Table 3-1.

Rationale: The IP generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS Ice Surface Temperature First Guess IP products.

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

SRS.01.17_89   The VIIRS Ice Concentration IP software shall incorporate inputs specified in Table 3-1.

Rationale: The IP generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS Ice Concentration IP products.

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

SRS.01.17_91   The VIIRS Ice Reflectance/Temperature IP software shall incorporate inputs
                specified in Table 3-1.

Rationale: The IP generation software must be able to receive and process the resource
interaction items shown in Table 3-1 in order to produce the intended VIIRS Ice
Reflectance/Temperature IP products.

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

SRS.01.17_143   The IST EDR software shall incorporate inputs specified in 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 VIIRS IST products.

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

SRS.01.17_183   The SIC EDR software shall incorporate inputs specified in 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 VIIRS SIC products.

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

SRS.01.17_810   The VIIRS Ice Concentration IP software shall ingest tables and coefficients
                formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol
                II: Data Dictionary for Cryosphere Products (474-00448-02-17).

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

SRS.01.17_811   The SIC EDR software shall ingest tables and coefficients formatted in
                accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data
                Dictionary for Cryosphere Products (474-00448-02-17).

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

SRS.01.17_812   The IST EDR software shall ingest tables and coefficients formatted in
                accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data
                Dictionary for Cryosphere Products (474-00448-02-17).

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

SRS.01.17_813 The VIIRS Ice Quality Flags IP software shall ingest tables and coefficients formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for Cryosphere Products (474-00448-02-17).

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

SRS.01.17_814 The VIIRS Ice Weights IP software shall ingest tables and coefficients formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for Cryosphere Products (474-00448-02-17).

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

SRS.01.17_815 The VIIRS Ice Surface Temperature First Guess IP software shall ingest tables and coefficients formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for Cryosphere Products (474-00448-02-17).

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 columns include the short name and mnemonic for the data. Blanks indicate there is no mnemonic. The fourth and fifth 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 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.
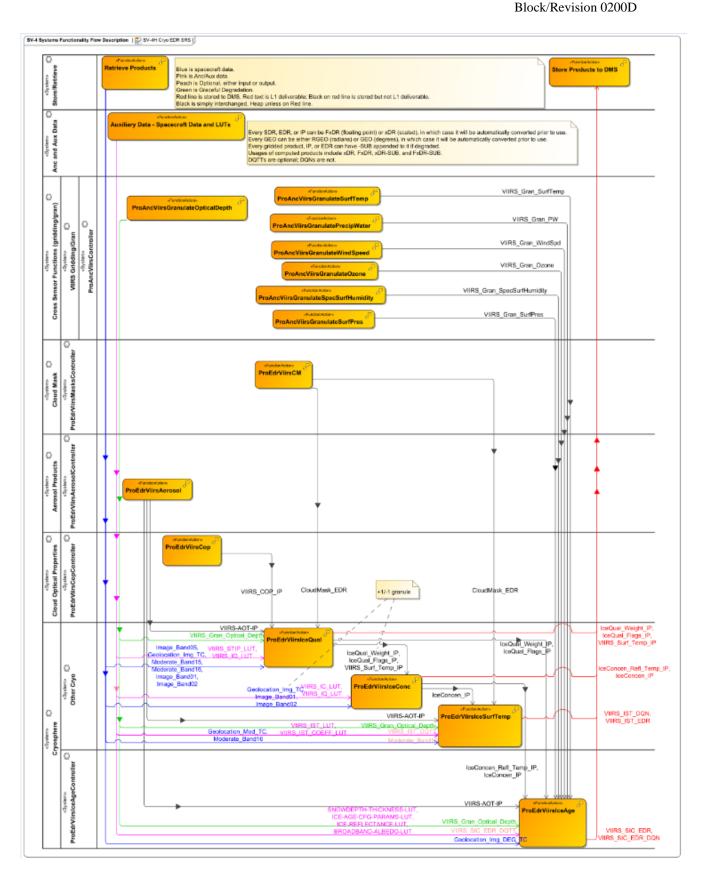
Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Figure: 3-1 Cryosphere Products Data Flows

Table: 3-1 Systems Resource Flow Matrix: Cryosphere Products

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
1	•Geolocation_Img_DEG_TC	•VIIRS-IMG-GEO-TC	•None	Store/Retrieve (VIIRS SDR)	Cryosphere	Retrieve Products	ProEdrViirsIce Age
2	•Geolocation_Mod_TC •Moderate_Band16	•VIIRS-MOD-RGEO-TC •VIIRS-M16-SDR	•None •SDRE-VM16-C0030	Store/Retrieve (VIIRS SDR)	Cryosphere	Retrieve Products	ProEdrViirsIce SurfTemp
3	•Geolocation_Img_TC •Image_Band01 •Image_Band02	•VIIRS-IMG-RGEO-TC •VIIRS-I1-SDR •VIIRS-I2-SDR	•None •SDRE-VI01-C0030 •SDRE-VI02-C0030	Store/Retrieve (VIIRS SDR)	Cryosphere	Retrieve Products	ProEdrViirsIce Conc
4	•Image_Band05 •Geolocation_Img_TC •Moderate_Band15 •Moderate_Band16 •Image_Band01 •Image_Band02	•VIIRS-I5-SDR •VIIRS-IMG-RGEO-TC •VIIRS-M15-SDR •VIIRS-M16-SDR •VIIRS-I1-SDR •VIIRS-I2-SDR	•SDRE-VI05-C0030 •None •SDRE-VM15-C0030 •SDRE-VM16-C0030 •SDRE-VI01-C0030 •SDRE-VI02-C0030	Store/Retrieve (VIIRS SDR)	Cryosphere	Retrieve Products	ProEdrViirsIce Qual
5	•Moderate_Band15	•VIIRS-M15-SDR	•SDRE-VM15-C0030	Store/Retrieve (VIIRS SDR)	Cryosphere	Retrieve Products	ProEdrViirsIce SurfTemp
6	•SNOWDEPTH-THICKNESS-LUT •ICE-AGE-CFG-PARAMS-LUT •ICE-REFLECTANCE-LUT •BROADBAND-ALBEDO-LUT	•VIIRS-SNOWDEPTH-THICKNESS-LUT •VIIRS-SIC-EDR-AC •VIIRS-ICE-REFLECTANCE-LUT •VIIRS-ATMOS-BROAD-TRANSMIT-LUT	•NP_NU-LM0233-006 •DP_NU-LM2020-027 •NP_NU-LM0040-009 •NP_NU-LM0040-008	Anc and Aux Data	Cryosphere	Auxiliary Data - Spacecraft Data and LUTs	ProEdrViirsIce Age
7	•VIIRS_Gran_Optical_Depth	•VIIRS-ANC-Optical-Depth-Mod-Gran	•None	Grid Gran	Cryosphere	ProAncViirsGr anulateOptical Depth	ProEdrViirsIce Qual

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
8	•VIIRS_IST_LUT •VIIRS_IST_COEFF_LUT	•VIIRS-IST-COEFF-LUT •VIIRS-IST-EDR-AC	•NP_NU-LM0233-011 •DP_NU-LM2020-020	Anc and Aux Data	Cryosphere	Auxiliary Data - Spacecraft Data and LUTs	ProEdrViirsIceSurfTemp
9	•VIIRS_IC_LUT •VIIRS_IQ_LUT	•VIIRS-ICE-CONC-LUT •VIIRS-ICE-QUAL-LUT	•NP_NU-LM0233-008 •NP_NU-LM0233-010	Anc and Aux Data	Cryosphere	Auxiliary Data - Spacecraft Data and LUTs	ProEdrViirsIceConc
10	•VIIRS_STIP_LUT •VIIRS_IQ_LUT	•VIIRS-SURF-TEMP-COEFF-LUT •VIIRS-ICE-QUAL-LUT	•NP_NU-LM0233-009 •NP_NU-LM0233-010	Anc and Aux Data	Cryosphere	Auxiliary Data - Spacecraft Data and LUTs	ProEdrViirsIceQual
11	•VIIRS_SIC_EDR_DQTT	•VIIRS-SIC-EDR-DQTT	•DP_NU-LM2030-000	Anc and Aux Data	Cryosphere	Auxiliary Data - Spacecraft Data and LUTs	ProEdrViirsIceAge
12	•VIIRS_IST_DQTT	•VIIRS-IST-EDR-DQTT	•DP_NU-LM2030-000	Anc and Aux Data	Cryosphere	Auxiliary Data - Spacecraft Data and LUTs	ProEdrViirsIceSurfTemp
13	•VIIRS_Gran_SpecSurfHumidity	•VIIRS-ANC-Sp-Humd-Surf-Mod-Gran •None	•None	Grid Gran	Cryosphere	ProAncViirsGranulateSpecSurfHumidity	ProEdrViirsIceAge
14	•VIIRS_Gran_WindSpd	•VIIRS-ANC-Wind-Speed-Mod-Gran	•None	Grid Gran	Cryosphere	ProAncViirsGranulateWindSpeed	ProEdrViirsIceAge
15	•VIIRS_Gran_SurfTemp	•VIIRS-ANC-Temp-Surf2M-Mod-Gran	•None	Grid Gran	Cryosphere	ProAncViirsGranulateSurfTemp	ProEdrViirsIceAge
16	•VIIRS_Gran_PW	•VIIRS-ANC-Preci-Wtr-Mod-Gran	•None	Grid Gram	Cryosphere	ProAncViirsGranulatePrecipWater	ProEdrViirsIceAge
17	•VIIRS_Gran_Ozone	•VIIRS-ANC-Tot-Col-Mod-Gran	•None	Grid Gran	Cryosphere	ProAncViirsGranulateOzone	ProEdrViirsIceAge

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
18	•VIIRS_Gran_Optical_Depth	•VIIRS-ANC-Optical-Depth-Mod-Gran	•None	Grid Gran	Cryosphere	ProAncViirsGranulateOpticalDepth	ProEdrViirsIceAge
19	•VIIRS_Gran_SurfPres	•VIIRS-ANC-Press-Surf-Mod-Gran	•None	Grid Gran	Cryosphere	ProAncViirsGranulateSurfPres	ProEdrViirsIceAge
20	•VIIRS_Gran_Optical_Depth	•VIIRS-ANC-Optical-Depth-Mod-Gran	•None	Grid Gran	Cryosphere	ProAncViirsGranulateOpticalDepth	ProEdrViirsIceSurfTemp
21	•VIIRS-AOT-IP	•VIIRS-Aeros-Opt-Thick-IP	•IMPI_VAOT_R0100	Aerosol Properties	Cryosphere	ProEdrViirsAerosol	ProEdrViirsIceAge
22	•VIIRS-AOT-IP	•VIIRS-Aeros-Opt-Thick-IP	•IMPI_VAOT_R0100	Aerosol Properties	Cryosphere	ProEdrViirsAerosol	ProEdrViirsIceSurfTemp
23	•VIIRS-AOT-IP	•VIIRS-Aeros-Opt-Thick-IP	•IMPI_VAOT_R0100	Aerosol Properties	Cryosphere	ProEdrViirsAerosol	ProEdrViirsIceQual
24	•CloudMask_EDR	•VIIRS-CM-EDR	•EDRE-CMIP-C0030	Cloud Mask	Cryosphere	ProEdrViirsCM	ProEdrViirsIceSurfTemp
25	•CloudMask_EDR	•VIIRS-CM-EDR	•EDRE-CMIP-C0030	Cloud Mask	Cryosphere	ProEdrViirsCM	ProEdrViirsIceQual
26	•VIIRS_COP_IP	•VIIRS-Cd-Opt-Prop-IP	•IMPI_VCOP_R0100	Cloud Optical Properties	Cryosphere	ProEdrViirsCop	ProEdrViirsIceQual
27	•IceConcen_Refl_Temp_IP •IceConcen_IP	•VIIRS-I-Refl-Temp-IP •VIIRS-I-Conc-IP	•IMPI_VIRT_R0100 •IMPI_VIIC_R0100	Cryosphere	Cryosphere	ProEdrViirsIceConc	ProEdrViirsIceAge
28	•IceQual_Weight_IP •IceQual_Flags_IP	•VIIRS-I-Wts-IP •VIIRS-I-Qual-Flags-IP	•IMPI_VIIW_R0100 •IMPI_VIQF_R0100	Cryosphere	Cryosphere	ProEdrViirsIceQual	ProEdrViirsIceAge
29	•IceConcen_IP	•VIIRS-I-Conc-IP	•IMPI_VIIC_R0100	Cryosphere	Cryosphere	ProEdrViirsIceConc	ProEdrViirsIceSurfTemp
30	•IceQual_Weight_IP •IceQual_Flags_IP •VIIRS_Surf_Temp_IP	•VIIRS-I-Wts-IP •VIIRS-I-Qual-Flags-IP •VIIRS-Surf-Temp-IP	•IMPI_VIIW_R0100 •IMPI_VIQF_R0100	Cryosphere	Cryosphere	ProEdrViirsIceQual	ProEdrViirsIceConc

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
			•IMPI_VIST_R0100				
31	•IceConcen_IP	•VIIRS-I-Conc-IP	•IMPI_VIIC_R0100	Cryosphere	Grid Gran	ProEdrViirsIceConc	ProGipViirsGranToGridSnowIceCover
32	•VIIRS_IST_EDR	•VIIRS-IST-EDR	•EDRE-ICST-C1030	Cryosphere	Grid Gran	ProEdrViirsIceSurfTemp	ProGipCSGranToGridViirsSnowIce
33	•IceConcen_IP	•VIIRS-I-Conc-IP	•IMPI_VIIC_R0100	Cryosphere	Surface Albedo	ProEdrViirsIceConc	ProEdrViirsLandSurfAlbedo
34	•VIIRS_SIC_EDR	•VIIRS-SIC-EDR	•EDRE-SICH-C1030	Cryosphere	Surface Albedo	ProEdrViirsIceAge	ProEdrViirsNHF
35	•VIIRS_IST_EDR	•VIIRS-IST-EDR	•EDRE-ICST-C1030	Cryosphere	Surface Albedo	ProEdrViirsIceSurfTemp	ProEdrViirsNHF
36	•IceConcen_IP	•VIIRS-I-Conc-IP	•IMPI_VIIC_R0100	Cryosphere	Sea Surface Temperature	ProEdrViirsIceConc	ProEdrViirsSst
37	•VIIRS_SIC_EDR •VIIRS_SIC_EDR_DQN	•VIIRS-SIC-EDR •VIIRS-SIC-EDR-DQN	•EDRE-SICH-C1030 •DP_NU-L00510-000	Cryosphere	Store/Retrieve	ProEdrViirsIceAge	Store Products to DMS
38	•VIIRS_IST_DQN •VIIRS_IST_EDR	•VIIRS-IST-EDR-DQN •VIIRS-IST-EDR	•DP_NU-L00510-000 •EDRE-ICST-C1030	Cryosphere	Store/Retrieve	ProEdrViirsIceSurfTemp	Store Products to DMS
39	•IceConcen_Refl_Temp_IP •IceConcen_IP	•VIIRS-I-Refl-Temp-IP •VIIRS-I-Conc-IP	•IMPI_VIRT_R0100 •IMPI_VIIC_R0100	Cryosphere	Store/Retrieve	ProEdrViirsIceConc	Store Products to DMS
40	•IceQual_Weight_IP •IceQual_Flags_IP •VIIRS_Surf_Temp_IP	•VIIRS-I-Wts-IP •VIIRS-I-Qual-Flags-IP •VIIRS-Surf-Temp-IP	•IMPI_VIIW_R0100 •IMPI_VIQF_R0100 •IMPI_VIST_R0100	Cryosphere	Store/Retrieve	ProEdrViirsIceQual	Store Products to DMS

3.3.2 Outputs

SRS.01.17_39   The VIIRS Ice Weights IP software shall generate the VIIRS Ice Weights IP
product in conformance with the XML format file in Attachment A.6 of the
JPSS Algorithm Specification Vol II: Data Dictionary for the Cryosphere
Products (474-00448-02-17).

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

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

SRS.01.17_47   The VIIRS Ice Quality Flags IP software shall generate the VIIRS Ice Quality
Flags IP product in conformance with the XML format file in Attachment A.4 of
the JPSS Algorithm Specification Vol II: Data Dictionary for the Cryosphere
Products (474-00448-02-17).

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

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

SRS.01.17_71   The VIIRS Ice Surface Temperature First Guess IP software shall generate the
VIIRS Ice Surface Temperature First Guess IP product in conformance with the
XML format file in Attachment A.7 of the JPSS Algorithm Specification Vol II:
Data Dictionary for the Cryosphere Products (474-00448-02-17).

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

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

SRS.01.17_84   The VIIRS Ice Concentration IP software shall generate the VIIRS Ice
Concentration IP product in conformance with the XML format file in
Attachment A.3 of the JPSS Algorithm Specification Vol II: Data Dictionary for
the Cryosphere Products (474-00448-02-17).

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

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

SRS.01.17_90   The VIIRS Ice Reflectance/Temperature IP software shall generate the VIIRS
Ice Reflectance/Temperature IP product in conformance with the XML format
file in Attachment A.5 of the JPSS Algorithm Specification Vol II: Data
Dictionary for the Cryosphere Products (474-00448-02-17).

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

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

SRS.01.17_112   The Ice Surface Temperature EDR software shall generate the Ice Surface
Temperature EDR product in conformance with the XML format file in
Attachment A.1 of the JPSS Algorithm Specification Vol II: Data Dictionary for
the Cryosphere Products (474-00448-02-17).

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

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

SRS.01.17_158 The Sea Ice Characterization EDR software shall generate the Sea Ice Characterization EDR product in conformance with the XML format file in Attachment A.2 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Cryosphere Products (474-00448-02-17).

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

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

SRS.01.17_204 The Ice Weights IP software shall use the terrain-corrected geolocation for the VIIRS I-band.

Rationale: The product must be associated with the terrain-corrected geolocation to meet the geolocation accuracy requirement.

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

SRS.01.17_205 The IST EDR software shall use the terrain corrected geolocation for the VIIRS M-band.

Rationale: The EDR product must be associated with the terrain-corrected geolocation to meet the geolocation accuracy requirement.

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

SRS.01.17_206 The Ice Concentration IP software shall use the terrain-corrected geolocation for the VIIRS I-band.

Rationale: The product must be associated with the terrain-corrected geolocation to meet the geolocation accuracy requirement.

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

SRS.01.17_207 The Ice Quality Flags IP software shall use the terrain-corrected geolocation for the VIIRS I-band.

Rationale: The product must be associated with the terrain-corrected geolocation to meet the geolocation accuracy requirement.

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

SRS.01.17_208 The Ice Reflectance/Temperature IP software shall use the terrain-corrected geolocation for the VIIRS I-band.

Rationale: The product must be associated with the terrain-corrected geolocation to meet the geolocation accuracy requirement.

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

SRS.01.17_209 The SIC EDR software shall use the terrain corrected geolocation for the VIIRS M-band.

Rationale: The EDR product must be associated with the terrain-corrected geolocation to meet the geolocation accuracy requirement.

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.01.17_70   The VIIRS Ice Quality Flags IP software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification for the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <IceQualFlags><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

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

SRS.01.17_74   The VIIRS Ice Surface Temperature First Guess IP software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <IceSrfTmp1stGsIP><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

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

SRS.01.17_148 The IST EDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <IceSurfTempEDR><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

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

SRS.01.17_203 The SIC EDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <SeaIceCharEDR><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.01.17_142 The IST EDR software shall send data quality notifications to the operator according to logic specified in the JPSS Algorithm Specification Vol II: Data Dictionary for the Cryosphere Products (474-00448-02-17) <IceSurfTempEDR><Notification>.

Rationale: Notifications must be generated and sent based on the established logic and conditions.

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

SRS.01.17_182 The SIC EDR software shall send data quality notifications to the operator according to logic specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <SeaIceCharEDR><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.01.17_536 The JPSS Common Ground System shall execute the VIIRS Ice Surface Temperature EDR algorithm.

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

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

SRS.01.17_537 The JPSS Common Ground System shall execute the VIIRS Sea Ice Characterization EDR algorithm.

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

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

SRS.01.17_538 The JPSS Common Ground System shall execute the VIIRS Ice Concentration IP algorithm.

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

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

SRS.01.17_539 The JPSS Common Ground System shall execute the VIIRS Ice Weights IP algorithm.

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

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

SRS.01.17_818 The JPSS Common Ground System shall execute the VIIRS Ice Quality Flags IP algorithm.

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

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

SRS.01.17_540 The JPSS Common Ground System shall execute the VIIRS Ice Surface Temperature IP algorithm.

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

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

SRS.01.17_541 The JPSS Common Ground System shall execute the VIIRS Ice/Reflectance Temperature IP 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

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
SRS.01.17_110	The Ice Surface Temperature EDR algorithm shall calculate the ice surface temperature with a measurement uncertainty of 1K.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.17_111	The Ice Surface Temperature EDR algorithm shall calculate the ice surface temperature with an available refresh of 90% of the globe every 24 hours, averaged monthly.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.17_154	The Sea Ice Characterization EDR algorithm shall calculate the ice age with a measurement uncertainty of 70% probability of correct typing for ice-free, new/young ice, and all other ice.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.17_155	The Sea Ice Characterization EDR algorithm shall calculate the ice age with an available refresh of 90% of the globe every 24 hours, averaged monthly.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.17_542	The Ice Surface Temperature EDR algorithm shall calculate the ice surface temperature with	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	a horizontal cell size of 1km at nadir and 1.6 km at edge of scan.									
SRS.01.17_543	The Sea Ice Characterization EDR algorithm shall calculate the ice age with a horizontal cell size of 1km at nadir and 1.6 km at edge of scan.	P	EDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.17_256	The VIIRS Ice Quality Flags IP software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth [750m Granulation] current forecast for fallback processing when the VIIRS aerosol optical thickness IP input is not available.	G	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_806	The VIIRS Ice Quality Flags IP software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth [750m Granulation] extended forecast for fallback processing when the VIIRS aerosol optical thickness IP and NAAPS TOD current forecast inputs are not available.	G	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_68	The VIIRS Ice Quality Flags IP software shall use GACP Aerosol climatology data for fallback processing when VIIRS AOT IP and NAAPS total	G	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	optical depth current and extended forecast data are not available.									
SRS.01.17_82	The VIIRS Ice Surface Temperature First Guess IP software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth [750m Granulation] current forecast for fallback processing when the VIIRS aerosol optical thickness IP input is not available.	G	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_816	The VIIRS Ice Surface Temperature First Guess IP software shall use GACP Climatology data [750m Granulation] data for fallback processing when the VIIRS aerosol optical thickness IP and NAAPS AOT current and extended forecast inputs are not available.	G	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_807	The VIIRS Ice Surface Temperature First Guess IP software shall use GACP Aerosol Climatology data [750m Granulation] data for fallback processing when the VIIRS aerosol optical thickness IP and NAAPS AOT current and	G	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	extended forecast inputs are not available.									
SRS.01.17_141	The IST EDR software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth current forecast data for fallback processing when the VIIRS AOT IP input is not available.	G	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_808	The IST EDR software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth extended forecast data for fallback processing when the VIIRS AOT IP and NAAPS current forecast input are not available.	G	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_184	The SIC EDR software shall use NCEP extended forecast data for fallback processing when NCEP current data is not available.	G	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_185	The SIC EDR software shall use Navy Aerosol Analysis and Prediction System (NAAPS) Total Optical Depth current forecast data for fallback processing when the VIIRS AOT IP input is not available.	G	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_817	The SIC EDR software shall use Navy Aerosol Analysis and Prediction System (NAAPS)	G	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	Total Optical Depth extended forecast data for fallback processing when the VIIRS AOT IP and NAAPS current forecast input are not available.									
SRS.01.17_187	The SIC EDR software shall use GACP Aerosol climatology data for fallback processing when VIIRS AOT optical thickness IP and NAAPS Total Optical Depth [750m Granulation] total optical depth current data and extended forecast are not available.	G	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_40	The VIIRS Ice Weights IP software shall incorporate a computing algorithm provided for ice weights.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_85	The VIIRS Ice Concentration IP software shall incorporate a computing algorithm provided for ice fraction.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_87	The VIIRS Ice Concentration IP software shall incorporate a computing algorithm provided for ice concentration weights.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_73	The VIIRS Ice Surface Temperature First Guess IP software shall incorporate a computing algorithm provided for ice surface temperature.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 17 - Cryosphere Products	Leve l 3 Type	Produc t Type	Mission Effectivit y	Allocate d To	Bloc k Start	Bloc k End	Block 2.0.0 VM	Bloc k 2.1.0 VM	Bloc k 2.2.0 VM
SRS.01.17_92	The VIIRS Ice Reflectance/Temperature IP software shall incorporate a computing algorithm provided for I-band ice tie points.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspectio n	NA	NA
SRS.01.17_94	The VIIRS Ice Reflectance/Temperature IP software shall incorporate a computing algorithm provided for surface temperature ice tie points.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspectio n	NA	NA
SRS.01.17_96	The VIIRS Ice Reflectance/Temperature IP software shall incorporate a computing algorithm provided for local water ice tie points.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspectio n	NA	NA
SRS.01.17_98	The VIIRS Ice Reflectance/Temperature IP software shall incorporate a computing algorithm provided for local water surface temperature ice tie points.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspectio n	NA	NA
SRS.01.17_100	The VIIRS Ice Reflectance/Temperature IP software shall incorporate a computing algorithm provided for search window quality flags.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspectio n	NA	NA
SRS.01.17_106	The VIIRS Ice Surface Temperature EDR software shall incorporate a computing	Ap	EDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspectio n	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	algorithm provided for ice surface temperature.									
SRS.01.17_149	The VIIRS Sea Ice Characterization EDR software shall incorporate a computing algorithm provided for ice age.	Ap	EDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_157	The VIIRS Sea Ice Characterization EDR software shall incorporate a computing algorithm provided for ice age weighting factors.	Ap	EDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_45	The VIIRS Ice Weights IP software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <IceWeightsIP><fill>.	E	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_138	The IST EDR software shall set <FillField> to <FillValue> according to <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <IceSurfTempEDR><fill>.	E	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_188	The SIC EDR software shall set <FillField> to <FillValue> according to <FillCondition>	E	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <SeaIceCharEDR><fill>.									
SRS.01.17_42	The VIIRS Ice Weights IP software shall incorporate inputs as specified in Table 3-1.	I	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_69	The VIIRS Ice Quality Flags IP software shall incorporate inputs specified in Table 3-1.	I	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_81	The VIIRS Ice Surface Temperature First Guess IP software shall incorporate inputs specified in Table 3-1.	I	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_89	The VIIRS Ice Concentration IP software shall incorporate inputs specified in Table 3-1.	I	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_91	The VIIRS Ice Reflectance/Temperature IP software shall incorporate inputs specified in Table 3-1.	I	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_143	The IST EDR software shall incorporate inputs specified in Table 3-1.	I	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_183	The SIC EDR software shall incorporate inputs specified in Table 3-1.	I	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_810	The VIIRS Ice Concentration IP software shall ingest tables and coefficients formatted in	Ft	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for Cryosphere Products (474-00448-02-17).									
SRS.01.17_811	The SIC EDR software shall ingest tables and coefficients formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for Cryosphere Products (474-00448-02-17).	Ft	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_812	The IST EDR software shall ingest tables and coefficients formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for Cryosphere Products (474-00448-02-17).	Ft	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_813	The VIIRS Ice Quality Flags IP software shall ingest tables and coefficients formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for Cryosphere Products (474-00448-02-17).	Ft	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_814	The VIIRS Ice Weights IP software shall ingest tables and coefficients formatted in accordance with Section 7 of the	Ft	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	JPSS Algorithm Specification Vol II: Data Dictionary for Cryosphere Products (474-00448-02-17).									
SRS.01.17_815	The VIIRS Ice Surface Temperature First Guess IP software shall ingest tables and coefficients formatted in accordance with Section 7 of the JPSS Algorithm Specification Vol II: Data Dictionary for Cryosphere Products (474-00448-02-17).	Ft	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_39	The VIIRS Ice Weights IP software shall generate the VIIRS Ice Weights IP product in conformance with the XML format file in Attachment A.6 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Cryosphere Products (474-00448-02-17).	F	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_47	The VIIRS Ice Quality Flags IP software shall generate the VIIRS Ice Quality Flags IP product in conformance with the XML format file in Attachment A.4 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Cryosphere Products (474-00448-02-17).	F	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
SRS.01.17_71	The VIIRS Ice Surface Temperature First Guess IP software shall generate the VIIRS Ice Surface Temperature First Guess IP product in conformance with the XML format file in Attachment A.7 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Cryosphere Products (474-00448-02-17).	F	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_84	The VIIRS Ice Concentration IP software shall generate the VIIRS Ice Concentration IP product in conformance with the XML format file in Attachment A.3 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Cryosphere Products (474-00448-02-17).	F	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_90	The VIIRS Ice Reflectance/Temperature IP software shall generate the VIIRS Ice Reflectance/Temperature IP product in conformance with the XML format file in Attachment A.5 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Cryosphere Products (474-00448-02-17).	F	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
SRS.01.17_112	The Ice Surface Temperature EDR software shall generate the Ice Surface Temperature EDR product in conformance with the XML format file in Attachment A.1 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Cryosphere Products (474-00448-02-17).	F	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_158	The Sea Ice Characterization EDR software shall generate the Sea Ice Characterization EDR product in conformance with the XML format file in Attachment A.2 of the JPSS Algorithm Specification Vol II: Data Dictionary for the Cryosphere Products (474-00448-02-17).	F	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_204	The Ice Weights IP software shall use the terrain-corrected geolocation for the VIIRS I-band.	Fg	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_205	The IST EDR software shall use the terrain corrected geolocation for the VIIRS M-band.	Fg	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_206	The Ice Concentration IP software shall use the terrain-corrected geolocation for the VIIRS I-band.	Fg	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_207	The Ice Quality Flags IP software shall use the terrain-	Fg	GEO	S-NPP JPSS-1	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	corrected geolocation for the VIIRS I-band.			JPSS-2						
SRS.01.17_208	The Ice Reflectance/Temperature IP software shall use the terrain-corrected geolocation for the VIIRS I-band.	Fg	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_209	The SIC EDR software shall use the terrain corrected geolocation for the VIIRS M-band.	Fg	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_70	The VIIRS Ice Quality Flags IP software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification for the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <IceQualFlags><QF>.	Q	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_74	The VIIRS Ice Surface Temperature First Guess IP software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <IceSrfTmp1stGsIP><QF>.	Q	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
SRS.01.17_148	The IST EDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <IceSurfTempEDR><QF>.	Q	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_203	The SIC EDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-00448-04-17) <SeaIceCharEDR><QF>.	Q	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_142	The IST EDR software shall send data quality notifications to the operator according to logic specified in the JPSS Algorithm Specification Vol II: Data Dictionary for the Cryosphere Products (474-00448-02-17) <IceSurfTempEDR><Notification>.	N	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_182	The SIC EDR software shall send data quality notifications to the operator according to logic specified in the JPSS Algorithm Specification Vol IV: SRSPF for the Cryosphere Products (474-	N	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 17 - Cryosphere Products	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	00448-04-17) <SeaIceCharEDR><Notification>.									
SRS.01.17_536	The JPSS Common Ground System shall execute the VIIRS Ice Surface Temperature EDR algorithm.	Ai	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_537	The JPSS Common Ground System shall execute the VIIRS Sea Ice Characterization EDR algorithm.	Ai	EDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_538	The JPSS Common Ground System shall execute the VIIRS Ice Concentration IP algorithm.	Ai	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_539	The JPSS Common Ground System shall execute the VIIRS Ice Weights IP algorithm.	Ai	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_818	The JPSS Common Ground System shall execute the VIIRS Ice Quality Flags IP algorithm.	Ai	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_540	The JPSS Common Ground System shall execute the VIIRS Ice Surface Temperature IP algorithm.	Ai	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.17_541	The JPSS Common Ground System shall execute the VIIRS Ice/Reflectance Temperature IP algorithm.	Ai	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA