Initial Operational Capability (IOC) Review

03 Dec 2015

NCEI Boulder, CO

Satellite Product Analysis & Distribution Enterprise System (SPADES)

NOAA Space Weather

Dial In: 866-793-3222 // 4832665#
Weblink: https://global.gotomeeting.com/join/787243133

SPADES IOCR 03-Dec-15

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Leader: 9421389

Objectives & CDR Feedback

SPADES IOCR

IOCR OBJECTIVES

- Present the current status of SPADES development
- Discuss phase 1 s/w deployments and plans for phases 2 & 3
- Review risks associated with the demonstration system.
- Allow NWS stakeholders to plan for the eventual R2O transition.
- ***Ensure that all team members have a shared level of expectation for the overall development and their responsibilities in the development.***

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Outline

Time	Slides	Topic	Presenter
14:30 – 14:35	04 – 07	Introduction	W. Denig
14:35 – 14:40	09 – 14	CDR Feedback	W. Denig
14:40 – 14:45	16 –18	SPADES Overview	W. Rowland
14:45 – 14:55	20 – 29	Installation Schedule	W. Rowland
14:55 – 15:15	31 – 51	Phase 1 GPAs (complete)	SWT
15:15 – 15:20	53 – 66	Phase 2 / Phase 3 GPAs	W. Rowland
15:20 – 15:25	68 – 72	Program Risks Status	W. Rowland
15:25 – 15:30	74 – 75	Wrap Up/End	W. Denig

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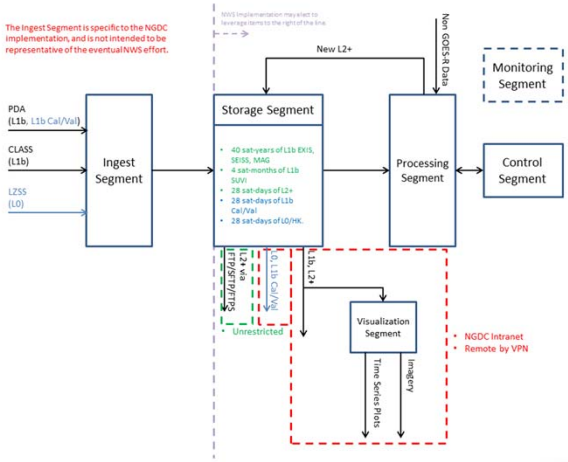
Introduction

What is SPADES?

SPADES is an internal developmental program within NCEI wherein NCEI will design, build and operate a demonstration system to 1) **acquire** GOES-R Level 1b (L1b) space weather products in near real time, 2) **produce** the Level 2+ (L2+) space weather products and 3) **disseminate** these products to the NWS Space Weather Prediction Center (SWPC) and others.



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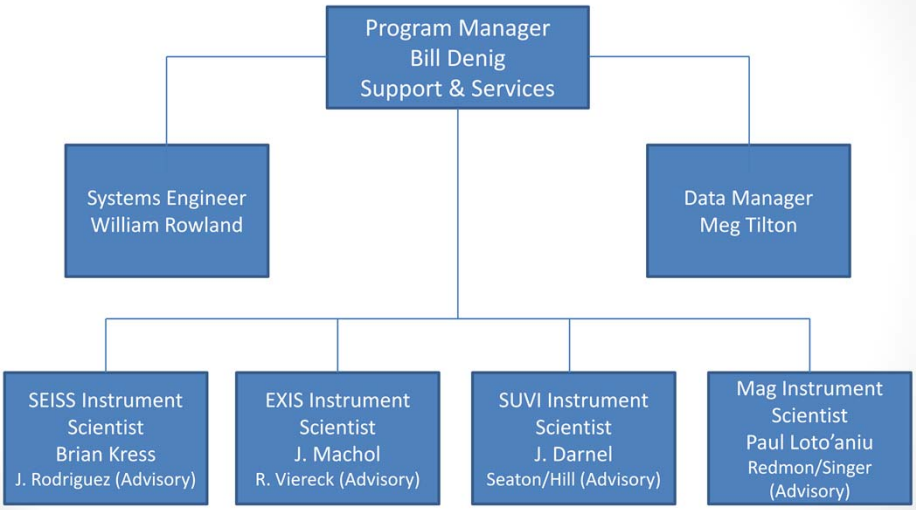
Introduction

SPADES Development Team



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Introduction

Progress/Changes Since CDR

- **SPADES Progress:**
  - Phase 1 algorithms installed on SPADESDEV (IOC)
  - SPADES servers/disks delivered & awaiting installation (2QFY16)
  - SPADESDEV used to support DOE 1/2 and DOE 3
- **Program Changes:**
  - GOES-R Launch Schedule – now deferred to 1QFY17
  - SPADES Demo will rely on PDA only (removed GRB interface)
  - Incoming NRAP participant (NWS interface)
- **Related Program Status**
  - Ground Readiness Project (GRP) FY16 PCS still on target
  - GOES-R SWx Post-launch (Cal-Val) planning ongoing
- **Algorithm swap (Proposed)**
  - Move EUVS.03 (sfeu-l2-avg1m) from Product Set II to III
  - Move XRS.09 (sfxr-l2-bkd1d) from Product Set III to II

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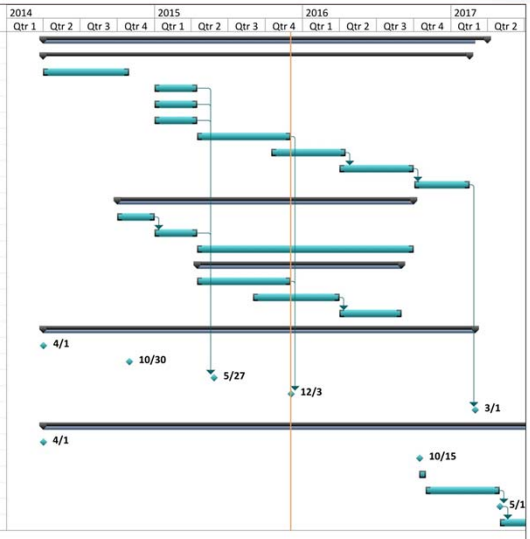
Introduction

SPADES-Demo Master Schedule

ID		Task Name
1		**SPADES Demonstration (Tasks)**
2		**SPADES Development**
3		Preliminary Design
4		Ingest Segment (IS)
5		Storage Segment (SS)
6		Processing Segment (PS)
7		Visualization Segment (VS)
8		Controller Segment (CS)
9		Monitor Segment (MS)
10		System Hardening - R2O prep
11		**Data Access/Availability**
12		Adopt/create L1b proxy dataset
13		Interface Development: PDA
14		Ancillary Data Access
15		**L2+ Algorithms**
16		L2+ Phase 1 Installation
17		L2+ Phase 2 Installation
18		L2+ Phase 3 Installation
19		**Program Reviews/Milestones**
20		Authorization To Proceed (ATP)
21		Preliminary Design Review
22		Critical Design Review
23		Initial Capability Review
24		Final Capability Review
25		**Key Dates /Activities- GOES-R**
26		SPADES Program Start
27		GOES-R Launch
28		Orbit Raising
29		Post-Launch Testing
30		Handover Readiness Review
31		Extended Validation



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CDR Feedback

CDR Pass/Fail Report Card

Criteria	Yes	No[1]
SPADES L1 and L2 requirements exist and are available	X	
SPADES design is mature enough for algorithm installation		X
Program is executable with no "show-stoppers"	X	
Developmental team is in place to proceed	X	
Risks have been identified and are being managed	X	
Schedule is reasonable to support the GOES-R program		X

[1] *Review Team Comment – Details on why we chose not to provide positive responses to two of the questions are contained in the attached Request For Action (RFA) forms.*

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CDR Feedback

SPADES Development Schedule (1 of 4)

Statement of Concern/Reason For Requesting Action – Concern that GOES-R program will accelerate PLT and push into full operations before Spring 2017.

Description of Action Requested – SPADES Project and IDP need a plan to accelerate R2O activities so that system is ready by Fall 2016.

Response – PLT activities have shifted to the right by 6 months to accommodate the latest GOES-R launch. Handover to operations will occur no sooner than 3QFY17. We are maintaining the current SPADES development schedule for completion in 2QFY17.

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CDR Feedback

SPADES Development Schedule (2 of 4)

Statement of Concern/Reason For Requesting Action – Concern that R2O activities from SPADES prototype to IDP are still not defined. This has great potential to delay operational implementation.

Description of Action Requested – SPADES Project and IDP must work together now to define roles and responsibilities of each so that code hand off from SPADES to IDP is seamless.

Response – Ground Readiness Project (GRP) initiative still baselined for FY16. Discussions with NWS are ongoing and a formal R2O Transition Plan will be prepared in late FY16/early FY17.

Note: Dan Nietfeld (NWS) will be joining the team as an NRAP[1] participant. One of Dan's responsibilities will be to provide an effective interface between NESDIS/SPADES and NWS/IDP

[1]NOAA Rotational Assignment Program

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CDR Feedback

SPADES Development Schedule (3 of 4)

Statement of Concern/Reason For Requesting Action – Concern that SPADES project is not cognizant of the overall latency of the GOES-R data delivery system (GRB) and how its processing latencies add to it.

Description of Action Requested – SPADES Project must understand and identify all latencies of the NESDIS GRB system, incorporate the planned latencies from the SPADES processing, and ensure that they meet established NOAA latency requirements provided in MRD and F&PS.

Response – Latency for GRB is defined as the interval between the end of an observation by an instrument on the satellite to the availability of the observation at the GRB user terminal. SPADES CDR slide 61 lists the space weather L1b product latencies as specified in PUG, Vol 3, Appendix B. L2+ processing time estimates were included in the L2+ GPA documentation. Latencies within the IDP to the NWS SPADES implementation are beyond the scope of the SPADES Demo.

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CDR Feedback

SPADES Development Schedule (4 of 4)

Statement of Concern/Reason For Requesting Action – Concern about the level of Control and Monitoring of SPADES processing.

Description of Action Requested – Provide additional details on the implementation of controls and monitoring of the SPADES processing.

Response – The NCEI Agile Team is scheduled to develop the Control segment in 2QFY16. Preliminary technical discussions are currently taking place to define interfaces and ensure that the Agile Team understands the current implementation approach. The Monitoring Segment is scheduled for implementation after 4QFY16 but will be based [*TBD*] on current NCEI-CO approaches.

CDR Feedback

Algorithm Maturity

Statement of Concern/Reason For Requesting Action –The SPADES CDR did not address the maturity and readiness of the level-2 algorithms to support R2O activities to IDP

Description of Action Requested – Recommend formal briefing to stakeholders on the status of algorithm development readiness

Response – Level-2+ algorithms for Phase 1 have been provided to the NWS for early testing. Test Data Sets (TDS), representative of L2+ product outputs, have been provided to SWPC.

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SPADES Overview

L1 Key Requirements[1]

Number	Requirement
L1-SPADES-100	SPADES shall be developed as a real-time demonstration system for GOES-R L2+ product generation and dissemination.
L1-SPADES-110	SPADES shall have a design mission lifetime of 20 years.
L1-SPADES-120	SPADES shall have a System Availability of greater than or equal to 98% over any 30-day period for the mission lifetime.
L1-SPADES-130	SPADES hardware and system software elements (operating system and software languages) shall be Commercial Off-The-Shelf (COTS).
L1-SPADES-140	SPADES shall be built in a modular fashion consisting of the following functional segments; Ingest Segment, Storage Segment, Processing Segment, Control Segment and Visualization Segment.

[1]SPADES Level 1 (L1) requirements are traceable to the SPADES Program Plan.

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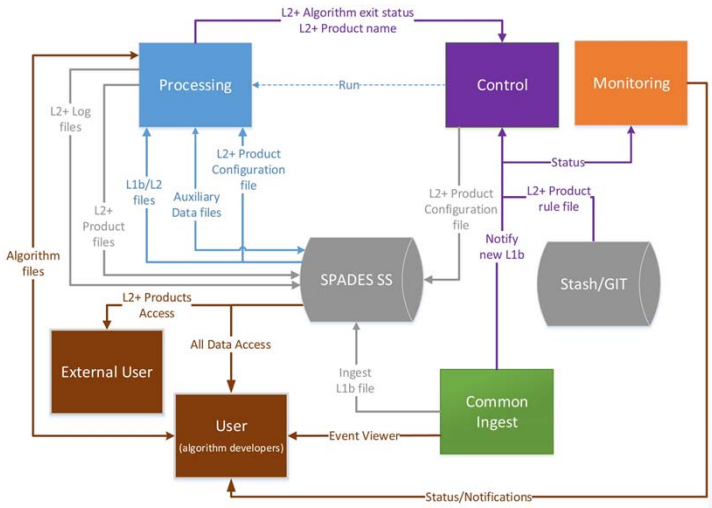
SPADES Overview
Functional Schematic

SPADES High Level Flow



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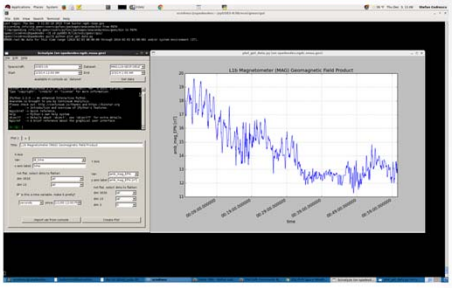
SPADES Overview

Visualization Segment – Candidates

Calibration Analysis Software Package (CASP)

Pros:
- Maximum flexibility
  - ✓ Integrated coding capability!
- Visualization

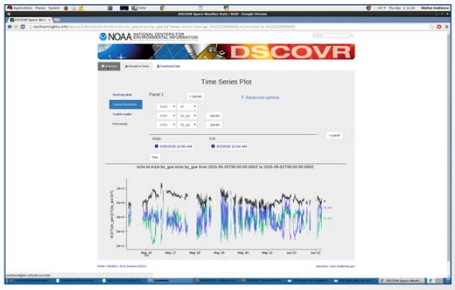
Cons:
- Less complete
- Likely to be intranet-only



DSCOVR Synchronous Data Access Page

Pros:
- Can be www or intranet accessible
- Relational search and filtering
- Visualization

Cons:
- Requires relational database
- Requires web service



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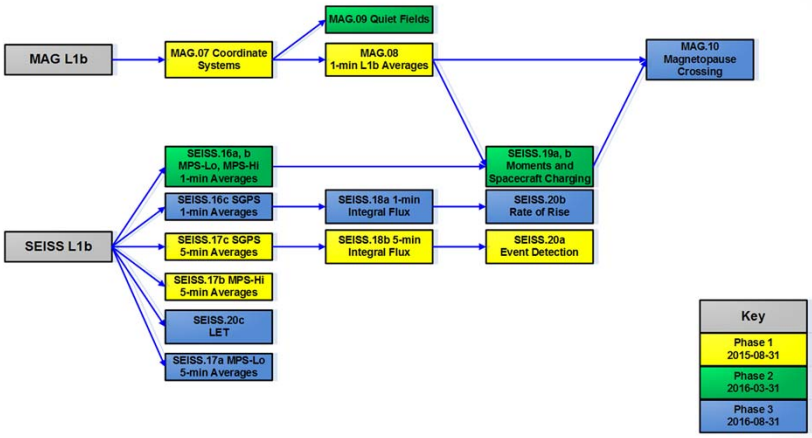
Installation Schedule

Precedence/Installation Chart (1 of 2)



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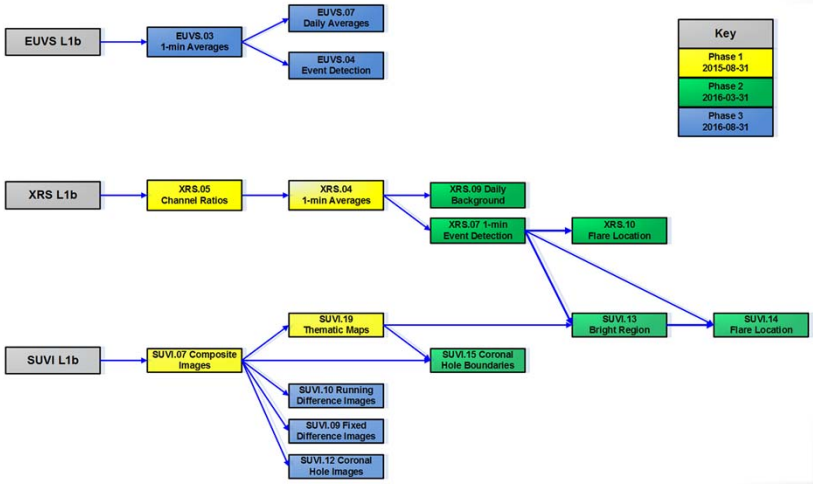
Installation Schedule

Precedence/Installation Chart (2 of 2)



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Installation Schedule

SEISS L2+ Products

L2+ Product	Data Short Name	Install	Product Description
SEISS.17b (MPSH)	mpsh-l2-avg5m	1	5-min Averages – SEISS MPSH (from L1b)
SEISS.17c (SGPS)	sgps-l2-avg5m	1	5-min Averages – SEISS SGPS (from L1b)
SEISS.18b	sgps-l2-int5m	1	5-min Integral Flux (from SGPS SEISS.17c)
SEISS.20a (Event)	sgps-l2-evdet	1	Event Detection (from SGPS SEISS.18b)
SEISS.16a	mpsl-l2-avg1m	2	1-min Averages – SEISS MPSL (from L1b)
SEISS.16b	mpsh-l2-avg1m	2	1-min Averages – SEISS MPSH (from L1b)
SEISS.19a	mpsl-l2-mom1m	2	Moments (from MPSL SEISS.16a)
SEISS.19b	mpgh-l2-mom1m	2	Moments (from MPSH SEISS.16b)
SEISS.16c (SGPS)	sgps-l2-avg1m	3	1-min Averages – SEISS SGPS (from L1b)
SEISS.17a (MPSL)	mpsl-l2-avg5m	3	5-min Averages – SEISS MPSL (from L1b)
SEISS.18a	sgps-l2-int1m	3	1-min Integral Flux (from SGPS SEISS.16c)
SEISS.20b (Rate)	sgps-l2-rrise	3	Rate of Rise (from SGPS SEISS.18a)
SEISS.20c (LET)	ehis-l2-ehlet	3	Linear Energy Transfer (from EHIS L1b)

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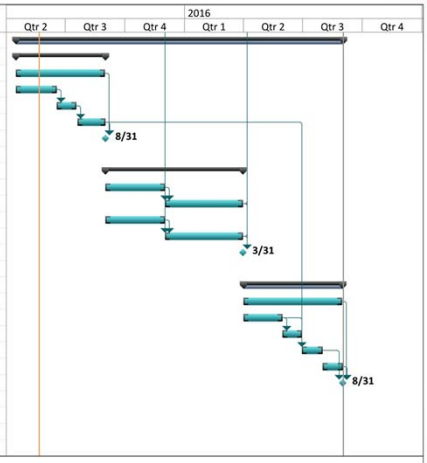
Installation Schedule
SEISS

ID	Task Mode	Task Name
53		**SEISS Level 2+ Algorithms**
54		**Phase 1 Installations**
55		SEISS.17b: mpsh-l2-avg5m (JR)
56		SEISS.17c: sgps-l2-avg5m (BK)
57		SEISS.18b :sgps-l2-int5m (BK)
58		SEISS.20a: sgps-l2-evdet (BK)
59		Phase 1 Install Complete
60		
61		**Phase 2 Installations**
62		SEISS.16a: mpsl-l2-avg1m (JR)
63		SEISS.19a: mpsl-l2-mom1m (JR)
64		SEISS.16b: mpsh-l2-avg1m (BK)
65		SEISS.19b: mpsh-l2-mom1m (BK)
66		Phase 2 Install Complete
67		
68		**Phase 3 Installations**
69		SEISS.17a: mpsl-l2-avg5m (JR)
70		SEISS.16c: sgps-l2-avg1m (BK)
71		SEISS.18a: sgps-l2-int1m (BK)
72		SEISS.20b: sgps-l2-rrise (BK)
73		SEISS.20c: ehis-l2-ehlet (BK)
74		Phase 3 Install Complete
75		
76		
77		
78		



Project: L2-Install_21may15.mpp
Date: Fri 5/22/15

Task	External Milestone	Manual Summary Rollup	
Split	Inactive Task	Manual Summary	
Milestone	Inactive Milestone	Start-only	
Summary	Inactive Summary	Finish-only	
Project Summary	Manual Task	Deadline	
External Tasks	Duration-only	Progress	

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Installation Schedule

MAG L2+ Products

L2+ Product	Data Short Name	Install	Product Description
MAG.07	magn-l2-coord	1	Coordinate Systems (from L1b)
MAG.08	magn-l2-avg1m	1	1-min Averages (from MAG.07)
MAG.09	magn-l2-quiet	2	Quiet Fields (from MAG.07)
MAG.10	magn-l2-cross	3	Magnetopause Crossing (from MAG.08)

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Installation Schedule

MAG

ID		Task Mode	Task Name
27			**MAG L2+ Algorithms**
28			**Phase 1 Installations**
29			MAG.07:magn-l2-coord (PL)
30			MAG.08: magn-l2-avg1m (PL)
31			Phase 1 Install Complete
32			
33			**Phase 2 Installations**
34			MAG.09: magn-l2-quiet (PL)
35			Phase 2 Install Complete
36			
37			**Phase 3 Installations**
38			MAG.10: magn-l2-cross (RR)
39			Phase 3 Install Complete
40			
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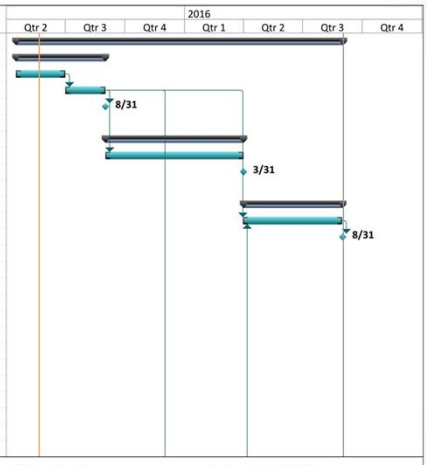
50			
51			
52			



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Split		Inactive Task		Manual Summary	
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Installation Schedule

SUVI L2+ Products

L2+ Product	Data Short Name	Install	Product Description
SUVI.07	suvi-l2-ciyyy[1]	1	Composite Images (from L1b)
SUVI.19	suvi-l2-thmap	1	Thematic Maps (from SUVI.07)
SUVI.13	suvi-l2-brght	2	Bright Regions (from SUVI.19 & XRS.07)
SUVI.14	suvi-l2-flloc	2	Flare Location (from SUVI.13 & XRS.07)
SUVI.15	suvi-l2-chbnd	2	Coronal Hole Bndr (SUVI.19 & SUVI.07)
SUVI.10	suvi-l2-rdyyy[1]	3	Running Diff. Images (from SUVI.07)
SUVI.12	suvi-l2-chimg	3	Coronal Hole Images (from SUVI.07)
SUVI.09	suvi-l2-fdyyy[1]	3	Fixed Diff. Images (from SUVI.07)

[1]ciyyy:

ci093	Fe093
ci131	Fe131
ci171	Fe171
ci195	Fe195
ci284	Fe284
ci303	He303

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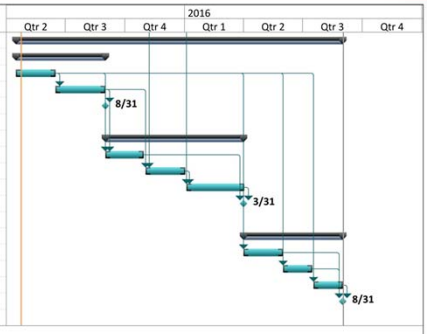
Installation Schedule

SUVI

ID		Task Mode	Task Name
79			**SUVI L2+ Algorithms**
80			**Phase 1 Installations**
81			SUVI.07: suvi-l2-ciyyy (JD)
82			SUVI.19: suvi-l2-thmap (JD)
83			Phase 1 Install Complete
84			
85			**Phase 2 Installations**
86			SUVI.15: suvi-l2-chbnd (JD)
87			SUVI.13: suvi-l2-brght (JD)
88			SUVI.14: suvi-l2-flloc (JD)
89			Phase 2 Install Complete
90			
91			**Phase 3 Installations**
92			SUVI.09: suvi-l2-fdyyy (JD)
93			SUVI.10: suvi-l2-rdyyy (JD)
94			SUVI.12: suvi-l2-chimg (JD)
95			Phase 3 Install Complete
96			



Project: L2-Install_24apr15b
Date: Fri 4/24/15

Task	External Milestone	Manual Summary Rollup	
Split	Inactive Task	Manual Summary	
Milestone	Inactive Milestone	Start-only	
Summary	Inactive Summary	Finish-only	
Project Summary	Manual Task	Deadline	
External Tasks	Duration-only	Progress	

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Installation Schedule

EXIS L2+ Products

L2+ Product	Data Short Name	Install	Product Description
XRS.04	sfxr-l2-avg1m	1	1-min Averages for XRS (from XRS.05)
XRS.05	sfxr-l2-ratio	1	Channel Ratio (from L1b)
XRS.07a	sfxr-l2-fldet	2	1-min Event Detection (from XRS.04)
XRS.07b	sfxr-l2-flsum	2	Post Event Summary (from XRS.04
XRS.09	sfxr-l2-bkd1d	2[1]	Daily Background (from XRS.04)
XRS.10	sfxr-l2-flloc	2	Flare Location (from XRS.07)
EUVS.03	sfeu-l2-avg1m	3[1]	1-min Averages for EUVS (from L1b)
EUVS.04a-e	sfeu-l2-flzzz[2]	3	Event Detection (from EUVS.03)
EUVS.07	sfeu-l2-avg1d	3	Daily Averages (from EUVS.03)

[1]Swapped

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Installation Schedule
EXIS

ID		Task Mode	Task Name
79			**EXIS L2+ Algorithms**
80			**Phase 1 Installations**
81			XRS.05: sfxr-l2-ratio (JM)
82			XRS.04: sfxr-l2-avg1m (JM)
83			Phase 1 Install Complete
84			
85			**Phase 2 Installations**
86			XRS.09: sfxr-l2-bkd1d (JM)
87			XRS.07a: sfxr-l2-fldet (JM)
88			XRS.07b: sfxr-l2-flsum (JM)
89			XRS.10: sfxr-l2-ffloc (JM)
90			Phase 2 Install Complete
91			
92			**Phase 3 Installations**
93			EUVS.03: sfeu-l2-avg1m (JM)
94			EUVS.07: sfeu-l2-avg1d (JM)
95			EUVS.04a: sfeu-l2-flzzz (JM)
96			Phase 3 Install Complete
97			
98			
99			
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102			
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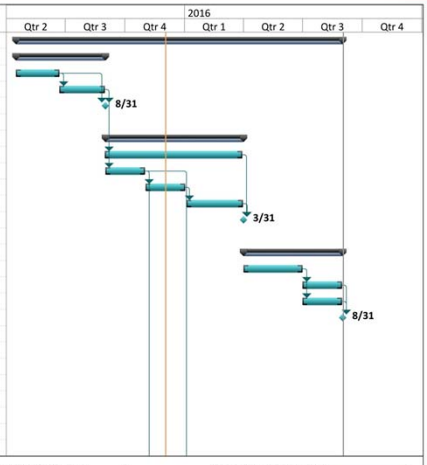
104			



Project: L2-Install_03dec15
Date: Thu 12/3/15

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Outline

Time	Slides	Topic	Presenter
14:30 – 14:35	04 – 07	Introduction	W. Denig
14:35 – 14:40	09 – 14	CDR Feedback	W. Denig
14:40 – 14:45	16 –18	SPADES Overview	W. Rowland
14:45 – 14:55	20 – 29	Installation Schedule	W. Rowland
14:55 – 15:15	31 – 51	Phase 1 GPAs (complete)	SWT
15:15 – 15:20	53 – 66	Phase 2 / Phase 3 GPAs	W. Rowland
15:20 – 15:25	68 – 72	Program Risks Status	W. Rowland
15:25 – 15:30	74 – 75	Wrap Up/End	W. Denig

Phase 1 L2+ Algorithms

Phase 1 Installations (complete)

L2+ Product	Data Short Name	Platform	Product Description
MAG.07	magn-l2-coord	gxx	Coordinate Systems (from L1b)
MAG.08	magn-l2-avg1m	gxx	1-min Averages (from MAG.07)
SEISS.17b (MPSH)	mpsh-l2-avg5m	gxx	5-min Averages – SEISS MPSH (from L1b)
SEISS.17c (SGPS)	sgps-l2-avg5m	gxx	5-min Averages – SEISS SGPS (from L1b)
SEISS.18b	sgps-l2-int5m	gxx	5-min Integral Flux (from SGPS SEISS.17c)
SEISS.20a (Event)	sgps-l2-evdet	gxx	Event Detection (from SGPS SEISS.18b)
XRS.04	sfxr-l2-avg1m	gxx	1-min Averages for EXIS XRS (from L1b)
XRS.05	sfxr-l2-ratio	gxx	Channel Ratio (from L1b)
SUVI.07	suvi-l2-ciyyy[1]	gxx	Composite Images (from L1b)
SUVI.19	suvi-l2-thmap	gxx	Thematic Maps (from SUVI.07)

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Phase 1 L2+ Algorithms

magn-l2-coord (MAG.07)

- Title: MAG – Coordinate Transformations (from L1b)
- Instrument Scientist: P. Loto'aniu
- ATBD: 10 Dec 2009 (v1.3) / Author: P. Loto'aniu
- Algorithm Lead: R. Redmon
- Language: Python (Research-grade code)
- L1b Input File (Short Name): MAG-L1b-GEOF
- L1b Input File Periodicity: 15 seconds (GRB/IDP) // 60 seconds (PDA)
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: IGRF
- L2+ Product Description: Transform MAG data into geophysical coords
- L2+ Product Filename (Data Short Name): magn.l2.coord
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 15 seconds (GRB/IDP) // 60 seconds (PDA)
- Algorithm Status: Installed

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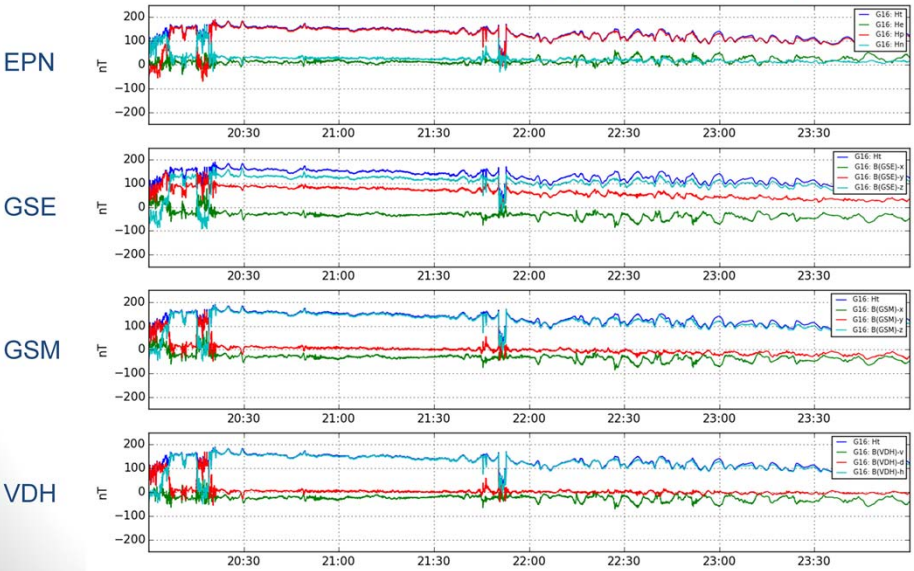
Phase 1 L2+ Algorithms

magn-l2-coord (Artifact)

GOES-15 on 2014-02-27 as Proxy (20:00-23:59 shown)



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Phase 1 L2+ Algorithms

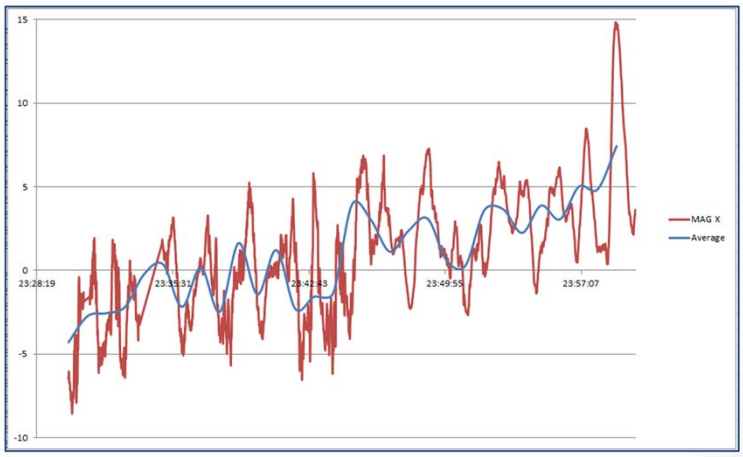
magn-l2-avg1m (MAG.08)

- Title: MAG – 1-minute Averages (from MAG.07)
- Instrument Scientist: P. Loto'aniu
- ATBD: 10 Dec 2009 (v1.3) / Author: P. Loto'aniu
- Algorithm Lead: P. Loto'aniu
- Language: Python (Research-grade code)
- L2+ Input File (Short Name): magn-l2-coord (MAG.07)
- L2+ Input File Periodicity: 15 seconds (GRB/IDP) // 60 seconds (PDA)
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: None
- L2+ Product Description: 1-min averages of full resolution data
- L2+ Product Filename (Short Name): magn-l2-avg1m
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 1 minute
- Algorithm Status: Installed

Phase 1 L2+ Algorithms

magn-l2-avg1m (Artifact)

Title: MAG – 1-minute Averages



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Phase 1 L2+ Algorithms

mpsh-l2-avg5m (SEISS.17b)

- Title: SEISS/MPSH – 5-minute Averages (from L1b)
- Instrument Scientist: B. Kress
- ATBD: 10 Dec 2009 (v1.3) / Author: P. Loto'aniu
- Algorithm Lead: J. Rodriguez
- Language: Python (Research-grade code)
- L1b Input File (Short Name): SEIS-L1b-MPSH
- L1b Input File Periodicity: 30 seconds
- Configuration Table: Yes
- Auxiliary Data: Calibration Tables
- Ancillary Data: None
- L2+ Product Description: 5-min averages of full resolution 1 sec data
- L2+ Product Filename (Data Short Name): mpsh-l2-avg5m
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 5 minutes
- Algorithm Status: Installed

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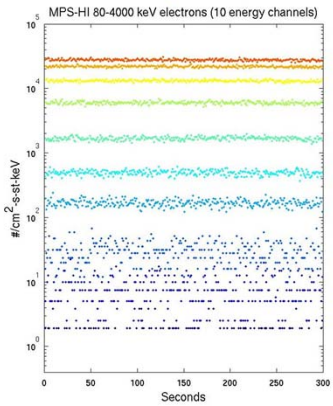
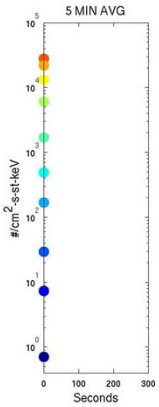
Phase 1 L2+ Algorithms

mpsh-l2-avg5m (Artifact)

Input



Output



Output Variables:

'L2_SciData_TimeStamp'
'L1bRecordsInAvg'
'AvgDiffProtonFlux'
'AvgDiffProtonFluxUncert'
'DiffProtonValidL1bSamplesInAvg'
'DiffProtonDQFdtcFraction'
'DiffProtonDQFoobFraction'
'DiffProtonDQFerrFraction'
'AvgDiffElectronFlux'
'AvgDiffElectronFluxUncert'
'DiffElectronValidL1bSamplesInAvg'
'DiffElectronDQFdtcFraction'
'DiffElectronDQFoobFraction'
'DiffElectronDQFerrFraction'
'AvgIntElectronFlux'
'AvgIntElectronFluxUncert'
'IntValidL1bSamplesInAvg'
'IntDQFdtcFraction'
'IntDQFoobFraction'
'IntDQFerrFraction'

- Similarly for protons and integral electron fluxes.
- Primary outputs are averaged proton/electron fluxes in 10 E-channels and 5 look directions.
- Output includes DQF sums / number-of-valid-samples:
  DQFdtcFraction - Fraction of samples with dead-time-correction threshold exceeded.
  DQFoobFraction - Fraction of samples with OOB contamination level threshold exceeded.
  DQFerrFraction - Fraction of samples with dynamic error threshold exceeded.

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Phase 1 L2+ Algorithms

sgps-l2-avg5m (SEISS.17c)

- Title: SEISS/SGPS – 5-minute Averages (from L1b)
- Instrument Scientist: B. Kress
- ATBD: 10 Dec 2009 (v1.3) / Author: P. Loto'aniu
- Algorithm Lead: B. Kress
- Language: Python (Research-grade code)
- L1b Input File (Short Name): SEIS-L1b-SGPS
- L1b Input File Periodicity: 30 seconds
- Configuration Table: Yes
- Auxiliary Data: Calibration Tables
- Ancillary Data: None
- L2+ Product Description: 5-min averages of full resolution 1-sec data
- L2+ Product Filename (Data Short Name): sgps-l2lavg5m
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 5 minutes
- Algorithm Status: Installed

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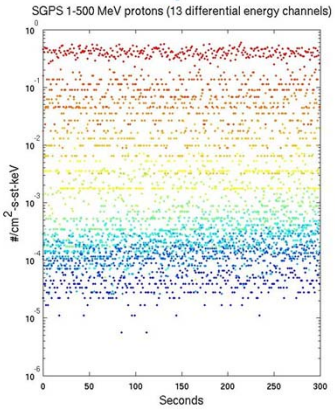
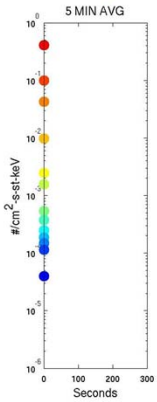
Phase 1 L2+ Algorithms

sgps-l2-avg5m (Artifact)

Input



Output



Output Variables:

- 'L2_SciData_TimeStamp'
- 'L1bRecordsInAvg'
- 'AvgDiffProtonFlux'
- 'AvgDiffProtonFluxUncert'
- 'DiffValidL1bSamplesInAvg'
- 'DiffDQFdtcFraction'
- 'DiffDQFoobFraction'
- 'DiffDQFerrFraction'
- 'AvgIntProtonFlux'
- 'AvgIntProtonFluxUncert'
- 'IntValidL1bSamplesInAvg'
- 'IntDQFdtcFraction'
- 'IntDQFoobFraction'
- 'IntDQFerrFraction'

- Similarly for >500 MeV integral proton channel.
- Primary outputs are averaged proton fluxes in 14 energy channels from 2 SGPS units.
- Output includes DQF sums / number-of-valid-samples:
  - DQFdtcFraction - Fraction of samples with dead-time-correction threshold exceeded.
  - DQFoobFraction - Fraction of samples with OOB contamination level threshold exceeded.
  - DQFerrFraction - Fraction of samples with dynamic error threshold exceeded.

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Phase 1 L2+ Algorithms

sgps-l2-int5m (SEISS.18b)

- Title: SEISS/SGPS – 5-min Integral Flux (from SEISS 17c)
- Instrument Scientist: B. Kress
- ATBD: 06 Nov 2009 (v1.0) / Author: J. Rodriguez
- Algorithm Lead: B. Kress
- Language: C++ (Research-grade code)
- L2+ Input File (Short Name): sgps-l2-avg5m (SEISS.17c)
- L2+ Input File Periodicity: 5 minutes
- Configuration Table: Yes
- Auxiliary Data: Calibration Tables
- Ancillary Data: None
- L2+ Product Description: Calculate SGPS 5-minute proton integral flux
- L2+ Product Filename (Data Short Name): sgps-l2-int5m
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 5 minutes
- Algorithm Status: Installed

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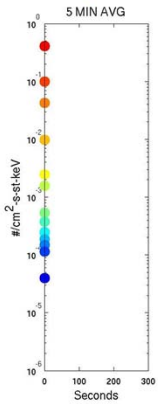
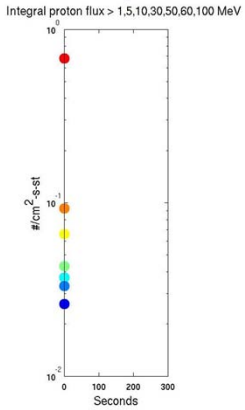
Phase 1 L2+ Algorithms

sgps-l2-int5m (Artifact)

Input



Output



Output Variables

- 'L2_SciData_TimeStamp'
- 'IntegralProtonFlux'
- 'DifferentialProtonFlux'
- 'hasMissingFlux'
- 'isBackground'
- 'hasGammaLimit'
- 'isNotConverged'

- Primary outputs are >1,5,10,30,50,60,100 MeV integral proton fluxes from 2 SGPS units.
- Output includes DQFs:
  - hasMissingFlux – Flag: missing input data (fill values), will not calculate output.
  - isBackground – Flag: input flux is at background levels.
  - hasGammaLimit – Flag: spectral index set to maximum or minimum permitted value.
  - isNotConverged – Flags: iterative determination of effective energy has not converged.

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Phase 1 L2+ Algorithms

sgps-l2-evdet (SEISS.20a // Event)

- Title: SEISS/SGPS – Event Detection (from SEISS.18b)
- Instrument Scientist: B. Kress
- ATBD: 03 Jun 2013 (v1.0) / Author: J. Rodriguez
- Algorithm Lead: B. Kress
- Language: C++ (Research-grade code)
- L2+ Input File (Short Name): sgps-l2-avg5m (SEISS.18b)
- L2+ Input File Periodicity: 5 minutes
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: None
- L2+ Product Description: Detect proton events from SGPS
- L2+ Product Filename (Data Short Name): sgps-l2-evdet
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 5 minutes
- Algorithm Status: Installed

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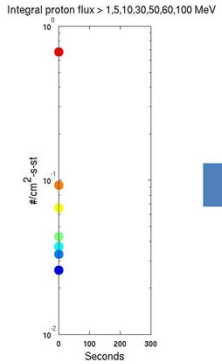
Phase 1 L2+ Algorithms

sgps-l2-evdet (Artifact)

Input



Output

L2_SciData_TimeStamp = 15681614.0 (14 JUL 2000)
EventLevel = -1 (no event)
EventOnsetTime = 4294967295 (fill value)
EventFluence = 4294967295 (fill value)
EventPeakFlux = 4294967295 (fill value)

Output Variables:
'L2_SciData_TimeStamp'
'EventLevel'
'EventOnsetTime'
'EventFluence'
'EventPeakFlux'

- Event Level, Onset-Time, Fluence, and Peak-Flux provided separately for >10, >30, >60, and >100 MeV integral fluxes.
- Daily fluences provided in separate file once per 24h.
- No event indicated above (EventLevel = -1), since algorithm requires 3 consecutive data points above background, and here we perform cold start.
- Note: *Per Tom Berger's e-mail (11 Nov 15) regarding neutron monitors vs GOES protons SWPC may wish to re-consider their approach for SPE detection.*

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Phase 1 L2+ Algorithms

suvi-l2-ciyyy (SUVI.07)

- Title: SUVI – Composite Images (from L1b)
- Instrument Scientist: J. Darnel
- ATBD: 30 Nov 2009 (v1.0) / Author: J. Rigler
- Algorithm Lead: J. Darnel
- Language: Python (Research-grade code)
- L1b Input File (Short Name): SUVI-L1b-xxxxx
- L1b Input File Periodicity: varies 60 to 240 seconds (see above table)
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: Solar β & P angles (USNO)
- L2+ Description: SUVI Composite Images
- L2+ Filename (Short Name): suvi-l2-ciyyy
- L2+ Product Format: FITS
- L2+ Product Periodicity: varies 60 to 240 seconds (see above table)
- Algorithm Status: Installed

xxxxx:	Fe093	@120 sec
	Fe131	@240 sec
	Fe171	@240 sec
	Fe195	@ 60 sec
	Fe284	@240 sec
	He303	@240 sec

ciyyy:	ci093	Fe093
	ci131	Fe131
	ci171	Fe171
	ci195	Fe195
	ci284	Fe284
	ci303	He303

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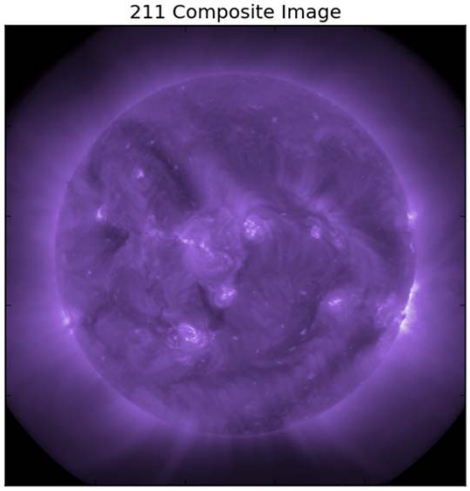
Phase 1 L2+ Algorithms

suvi-l2-ciyyy (Artifact)

Title: SUVI – Composite Images

211 Composite Image



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Phase 1 L2+ Algorithms

suvi-l2-thmap (SUVI.19)

- Title: SUVI - Thematic Maps (from SUVI.07)
- Instrument Scientist: J. Darnel
- ATBD: 21 Jul 2011 (v1.0) / Author: J. Rigler
- Algorithm Lead: J. Darnel
- Language: Python (Research-grade code)
- L2+ Input File (Short Name): suvi-l2-ciyyy (SUVI.07)
- L2+ Input File Periodicity: Wavelength dependent
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: None
- L2+ Product Description: Create a solar thematic map
- L2+ Product Filename (Data Short Name): suvi-l2-thmap
- L2+ Product Format: FITS
- L2+ Product Periodicity: 1 minute
- Algorithm Status: Installed

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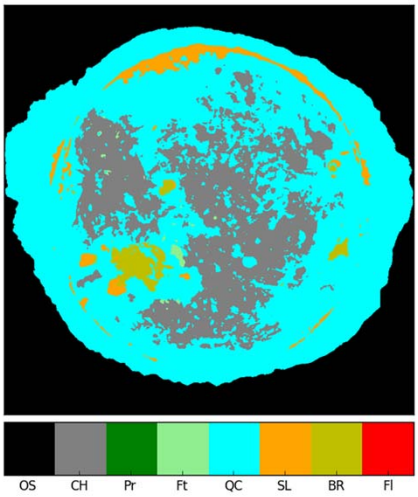
Phase 1 L2+ Algorithms

suvi-l2-thmap (Artifact)

Title: SUVI - Thematic Maps

Thematic_Maps/ThematicMap_20150821_201535.png



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Phase 1 L2+ Algorithms

sfxr-l2-irr1s (XRS.05)

- Title: EXIS/XRS - Channel Ratio (from L1b)
- Instrument Scientist: J. Machol
- ATBD: 10 Dec 2015 (v2.0) / Authors: D. Bouwer, J. Machol
- Algorithm Lead: J. Machol
- Language: Python (Research-grade code)
- L1b Input File (Short Name): EXIS-L1b-SFXR
- L1b Input File Periodicity: 3 seconds (GRB/IDB) / 30 seconds (PDA)
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: None
- L2+ Product Description: Calculate ratio of short-to-long x-ray wavelengths
- L2+ Product Filename (Data Short Name): sfxr-l2-irr1s
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 3 seconds (GRB/IDB) / 30 seconds (PDA)
- Algorithm Status: Installed

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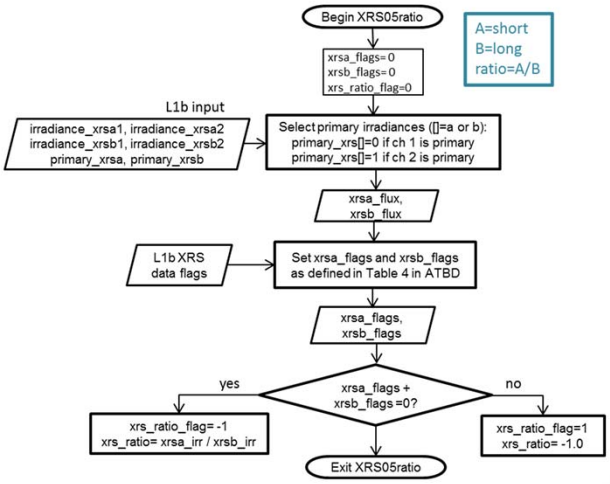
Phase 1 L2+ Algorithms

sfxr-l2-ratio (Artifact)

Title: EXIS/XRS - Channel Ratio



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Phase 1 L2+ Algorithms

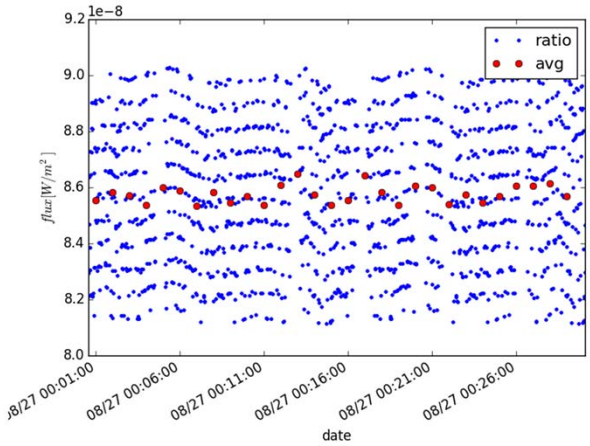
sfxr-l2-avg1m (XRS.04)

- Title: EXIS/XRS – 1-minute Averages (from XRS.05)
- Instrument Scientist: J. Machol
- ATBD: 10 Dec 2009 (v1.3, under revision) / Authors: P. Loto'aniu, J. Machol
  Algorithm Lead: J. Machol
- Language: Python (Research-grade code)
- L2+ Input File (Short Name): sfxr-l2-ratio
- L2+ Input File Periodicity: 3 seconds (GRB/IDB) / 30 seconds (PDA)
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: None
- L2+ Product Description: 1-min averages of the full resolution 1-sec data
- L2+ Product Filename (Data Short Name): sfxr-l2-avg1m
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 1 minute
- Algorithm Status: Installed

L2+ Algorithms

sfxr-l2-avg1m (Artifact)

Title: EXIS/XRS – 1-minute Averages



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SPADES IOCR
Outline

Time	Slides	Topic	Presenter
14:30 – 14:35	04 – 07	Introduction	W. Denig
14:35 – 14:40	09 – 14	CDR Feedback	W. Denig
14:40 – 14:45	16 –18	SPADES Overview	W. Rowland
14:45 – 14:55	20 – 29	Installation Schedule	W. Rowland
14:55 – 15:15	31 – 51	Phase 1 GPAs (complete)	SWT
15:15 – 15:20	53 – 66	Phase 2 / Phase 3 GPAs	W. Rowland
15:20 – 15:25	68 – 72	Program Risks Status	W. Rowland
15:25 – 15:30	74 – 75	Wrap Up/End	W. Denig

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Phase 2 L2+ Algorithms

Phase 2 Installations (01Sep15 – 31Mar16)

L2+ Product	Data Short Name	Platform	Product Description
MAG.09	magn-l2-quiet	gxx	Quiet Fields (from MAG.07)
SEISS.16a	mpsl-l2-avg1m	gxx	1-min Averages – SEISS MPSL (from L1b)
SEISS.16b	mpsh-l2-avg1m	gxx	1-min Averages – SEISS MPSH (from L1b)
SEISS.19a	mpsl-l2-mom1m	gxx	Moments (from MPSL SEISS.16a)
SEISS.19b	mpgh-l2-mom1m	gxx	Moments (from MPSH SEISS.16b)
XRS.07a	sfxr-l2-fldet	gxx	1-min Event Detection (from XRS.04)
XRS.07b	sfxr-l2-flsum	gxx	Post Event Summary (from XRS.04)
XRS.09	sfxr-l2-bkd1d	gxx	Daily Background (from XRS.04)
XRS.10	sfxr-l2-flloc	gxx	Flare Location (from XRS.07)
SUVI.13	suvi-l2-brght	gxx	Bright Regions (from SUVI.19 & XRS.07)
SUVI.14	suvi-l2-flloc	gxx	Flare Location (from SUVI.13 & XRS.07)
SUVI.15	suvi-l2-chbnd	gxx	Coronal Hole Bndr (SUVI.19 & SUVI.07)

Phase 2 L2+ Algorithms

magn-l2-quiet (MAG.09)

- Title: MAG – Quiet Fields (from MAG.07)
- Instrument Scientist: P. Loto'aniu
- ATBD: 11 Dec 2009 (v1.3) / Author: P. Loto'aniu
- Algorithm Lead: P. Loto'aniu
- Language: C++ (Research-grade code)
- L2+ Input File (Short Name): magn-l2-coord (MAG.07)
- L2+ Input File Periodicity: 15 seconds (GRB/IDP) // 60 seconds (PDA)
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: Olson-Pfitzer (OP77); IGRF
- L2+ Product Description: Mag field deviation from quiescent state
- L2+ Product Filename (Short Name): magn-l2-quiet
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 15 seconds (GRB/IDP) // 60 seconds (PDA)
- Algorithm Status: In process (Phase 2 install); Convert to Python

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L2+ Algorithms

mpsl-l2-avg1m (SEISS.16a)

- Title: SEISS/MPSL – 1-minute Averages (from L1b)
- Instrument Scientist: B. Kress
- ATBD: 10 Dec 2009 (v1.3) / Author: P. Loto'aniu
- Algorithm Lead: J. Rodriguez
- Language: C++ (Research-grade code)
- L1b Input File (Short Name): SEIS-L1b-MPSL
- L1b Input File Periodicity: 30 seconds
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: None
- L2+ Product Description: 1-min averages of full resolution 1-sec data
- L2+ Product Filename (Data Short Name): mpsl-l2-avg1m
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 1 minute
- Algorithm Status: In process (Phase 2 install)

L2+ Algorithms

mpsh-l2-avg1m (SEISS.16b)

- Title: SEISS/MPSH – 1-minute averages (from L1b)
- Instrument Scientist: B. Kress
- ATBD: 10 Dec 2009 (v1.3) / Author: P. Loto'aniu
- Algorithm Lead: B. Kress
- Language: C++ (Research-grade code)
- L1b Input File (Short Name): SEIS-L1b-MPSH
- L1b Input File Periodicity: 30 seconds
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: None
- L2+ Product Description: 1-min averages of full resolution 1-sec data
- L2+ Product Filename (Data Short Name): mpsh-l2-avg1m
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 1 minute
- Algorithm Status: In process (Phase 2 install); Convert to Python

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L2+ Algorithms

mpsl-l2-mom1m (SEISS.19a)

- Title: SEISS/MPSL - Moments (from SEISS.16a)
- Instrument Scientist: B. Kress
- ATBD: 10 May 2011 (v1.1) / Author: J. Rodriguez
- Algorithm Lead: J. Rodriguez
- Language: C++ (Research-grade code)
- L2+ Input File (Short Name): mpsl-l2-avg1m (SEISS.16a)
- L2+ Input File Periodicity: 1 minute
- Configuration Table: Yes
- Auxiliary Data: magn-l2-avg1m (MAG.08)
- Ancillary Data: None
- L2+ Product Description: Particle moments for MPSL
- L2+ Product Filename (Data Short Name): mpsl-l2-mom1m
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 1 minute
- Algorithm Status: In process (Phase 2 install)

L2+ Algorithms

mpsh-l2-mom1m (SEISS.19b)

- Title: SEISS/MPSH - Moments (from SEISS.16b)
- Instrument Scientist: B. Kress
- ATBD: 10 May 2011 (v1.1) / Author: J. Rodriguez
- Algorithm Lead: B. Kress
- Language: C++ (Research-grade code)
- L2+ Input File (Short Name): mpsh-l2-avg1m (SEISS.16b)
- L2+ Input File Periodicity: 1 minute
- Configuration Table: Yes
- Auxiliary Data: magn-l2-avg1m (MAG.08)
- Ancillary Data: None
- L2+ Product Description: Particle moments for SEISS/MPSH
- L2+ Product Filename (Data Short Name): mpsh-l2-mom1m
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 1 minute
- Algorithm Status: In process (Phase 2 install)

L2+ Algorithms

sfxr-l2-bkd1d (XRS.09)

- Title: EXIS/XRS - Daily Background (from L2+)
- Instrument Scientist: J. Machol
- ATBD: 24 Sep 2010 (v2.0) / Author: D. Bouwer (SET)
- Algorithm Lead: J. Machol
- Language: C++ (Research-grade code)
- L2+ Input File (Short Name): sfxr-l2-avg1b
- L2+ Input File Periodicity: 1 minute
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: None
- L2+ Product Description: Calculate daily bkgnd; short/long wavelengths
- L2+ Filename (Data Short Name): sfxr-l2-bkd1d
- L2+ Product Output Format: NetCDF4
- L2+ Product Periodicity: 1 day
- Algorithm Status: Phase 2 installation; Convert to Python

L2+ Algorithms

sfxr-l2-fldet (XRS.07a)

- Title: EXIS/XRS - Event Detection (from XRS.04)
- Instrument Scientist: J. Machol
- ATBD: 24 Sep 2010 (v1.2) / Author: D. Bouwer (SET)
- Algorithm Lead: J. Machol
- Language: C++ (Research-grade code)
- L2+ Input File (Short Name): sfxr-l2-avg1m (XRS.04)
- L2+ Input File Periodicity: 1 minute
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: None
- L2+ Product Description: Solar x-ray flare detection / characterization
- L2+ Product Filename (Data Short Name): sfxr-l2-fldet
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 1 minute
- Algorithm Status: In process (Phase 2 install); Convert to Python

L2+ Algorithms

sfxr-l2-flsum (XRS.07b)

- Title: EXIS/XRS - Post-event Summary (from XRS.04a)
- Instrument Scientist: J. Machol
- ATBD: 24 Sep 2010 (v1.2) / Author: D. Bouwer (SET)
- Algorithm Lead: J. Machol
- Language: C++ (Research-grade code)
- L2+ Input File (Short Name): sfxr-l2-fldet (XRS.04a)
- L2+ Input File Periodicity: 1 minute
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: None
- L2+ Product Description: Post-event summary of daily x-ray flares
- L2+ Product Filename (Data Short Name): sfxr-l2-flsum
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: Daily, updated each minute
- Algorithm Status: In process (Phase 2 install); Convert to Python

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L2+ Algorithms

sfxr.l2.flloc (XRS.10)

- Title: EXIS/XRS - Flare Location (from XRS.07)
- Instrument Scientist: J. Machol
- ATBD: 15-Dec-2013 (v1.1) / Author: A. Reinard
- Algorithm Lead: J. Machol
- Language: Python (Research-grade code)
- L2+ Input File (Short Name): sfxr-l2-fldet (XRS.07a)
- L2+ Input File Periodicity: 1 minute
- Configuration Table: Yes
- Auxiliary Data: None
- Ancillary Data: None
- L2+ Product Description: Locate the detected flare on the solar disk
- L2+ Product Filename (Data Short Name): sfxr-l2-flloc
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: Per detection
- Algorithm Status: In process (Phase 2 install

L2+ Algorithms

suvi-l2-brght (SUVI.13)

- Title: SUVI - Bright Regions (from SUVI.19)
- Instrument Scientist: J. Darnel
- ATBD: 22-Aug-2013 (v0.0) / Author: J. Darnel
- Algorithm Lead: J. Darnel
- Language: C++ (Research-grade code)
- L2+ Input File (Short Name): suvi-l2-thmap & xrsf-l2-fldet
- L2+ Input File Periodicity: 1 minute
- Configuration Table: Yes
- Auxiliary Data: xrsf-l2-fldet (XRS.07a)
- Ancillary Data: Solar β & P angles (USNO) / SRS (SWPC)
- L2+ Product Description: Detect solar bright (active) regions for flaring sun
- L2+ Product Filename (Data Short Name): suvi-l2-brght
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: 1 minute
- Algorithm Status: In process (Phase 2 install); Convert to Python

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L2+ Algorithms

suvi-l2-flloc (SUVI.14)

- Title: SUVI - Flare Location (from SUVI.13)
- Instrument Scientist: J. Darnel
- ATBD: 11-Dec-2013 (v0.1) / Author: J. Darnel
- Algorithm Lead: J. Darnel
- Language: C++ (Research-grade code)
- L2+ Input File (Short Name): suvi-l2-brght & xrsf-l2-fldet
- L2+ Input File Periodicity: Event driven (XRS.07a)
- Configuration Table: Yes
- Auxiliary Data: xrsf-l2-fldet (XRS.07a)
- Ancillary Data: None
- L2+ Product Description: Locate flaring location on the solar disk
- L2+ Product Filename (Data Short Name): suvi-l2-flloc
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: Event driven
- Algorithm Status: In process (Phase 2 install); Convert to Python

L2+ Algorithms

suvi-l2-chbnd (SUVI.15)

- Title: SUVI - Coronal Hole Boundary (from SUV.07)
- Instrument Scientist: J. Darnel
- ATBD: 11-Dec-2013 (v0.2') / Author: J. Darnel
- Algorithm Lead: J. Darnel
- Language: C++ (Research-grade code)
- L2+ Input File (Short Name): suvi-l2-thmap & suvi-l2-ci*yyy*
- L2+ Input Periodicity: suvi-l2-thmap (1 minute) // suvi-l2-ci*yyy* (varies)
- Configuration Table: Yes
- Auxiliary Data: suvi-l2-thmap (SUVI.19)
- Ancillary Data: Solar β & P angles (USNO)
- L2+ Product Description: Create shape file for solar coronal boundaries
- L2+ Product Filename (Data Short Name): suvi-l2-chbnd
- L2+ Product Format: NetCDF4
- L2+ Product Periodicity: Daily
- Algorithm Status: In process (Phase 2 install; Convert to Python

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Phase 3 L2+ Algorithms

Phase 3 Installations (01Apr16 – 31Aug16)

L2+ Product	Data Short Name	Platform	Product Description
MAG.10	magn-l2-cross	geo[1]	Magnetopause Crossing (from MAG.08)
SEISS.17a	mpsl-l2-avg5m	gxx	5-min Averages – SEISS MPSL (from L1b)
SEISS.16c	sgps-l2-avg1m	gxx	1-min Averages – SEISS SGPS (from L1b)
SEISS.18a	sgps-l2-int1m	gxx	1-min Integral Flux (from SGPS SEISS.16c)
SEISS.20b	sgps-l2-rrise	gxx	Rate of Rise (from SGPS SEISS.18a)
SEISS.20c	ehis-l2-ehlet	gxx	Linear Energy Transfer (from EHIS L1b)
SUVI.10	suvi-l2-rdyyy[1]	gxx	Running Diff. Images (from SUVI.07)
SUVI.12	suvi-l2-chimg	gxx	Coronal Hole Images (from SUVI.07)
SUVI.09	suvi-l2-fdyyy[1]	gxx	Fixed Diff. Images (from SUVI.07)
EUVS.04a-e	sfeu-l2-flzzz[2]	gxx	Event Detection (from EUVS.03)
EUVS.07	sfeu-l2-avg1d	gxx	Daily Averages (from EUVS.03)
EUVS.03	sfeu-l2-avg1m	gxx	1-min averages for EXIS/EUVS (from L1b)

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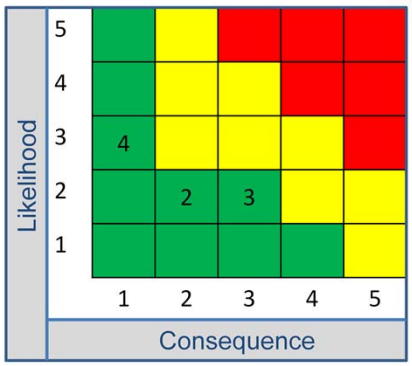
SPADES IOCR
Outline

Time	Slides	Topic	Presenter
14:30 – 14:35	04 – 07	Introduction	W. Denig
14:35 – 14:40	09 – 14	CDR Feedback	W. Denig
14:40 – 14:45	16 –18	SPADES Overview	W. Rowland
14:45 – 14:55	20 – 29	Installation Schedule	W. Rowland
14:55 – 15:15	31 – 51	Phase 1 GPAs (complete)	SWT
15:15 – 15:20	53 – 66	Phase 2 / Phase 3 GPAs	W. Rowland
15:20 – 15:25	68 – 72	Program Risks Status	W. Rowland
15:25 – 15:30	74 – 75	Wrap Up/End	W. Denig

Program Risks

Summary – Open Items

Risk ID	Criticality	Title
2	L2C2	Agile S/W team unavailable to support GOES-R
3	L2C3	L2+ processing needs exceed SPADES capabilities
4	L3C1	Transition Plan needs NWS stakeholder



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Program Risks

Risk ID 1 – Closed Items (from PDR)

Risk 1 - ERDDAP fails to meet requirements

Resolution:

- Modified interface expectations for L2+ Algorithm inputs.
- Consolidated essential functionality from ERDDAP into the Control and Monitoring segments.
- Began discussing updated CS/MS role with Agile Team.

2015-05-15 - Issue closed.

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Program Risks

Risk ID 2 - Agile S/W team unavailable

Risk Description

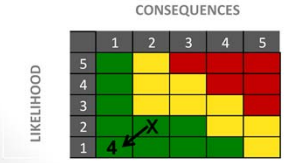
IF the Agile software development teams are not available for sufficient time to complete development efforts on schedule THEN schedule may be adversely impacted.

Owner: W. Rowland

Potential Impact: Cost and schedule

Status

- 04/01/15 – PDA Ingest & Storage segments complete. Processing segment hardware ordered.
- 04/01/15 – Began work to specify details of CS-PS and MS-PS interfaces, in preparation for CS implementation.
- 05/20/15 – Funded additional Agile software developer.



Current Risk Level & Mitigation Plan

Likelihood: 2	Consequence: 2	Criticality: L

Steps	Mitigation	Status	Start	Finish
1	Bill Denig successfully sets a workable schedule with Agile Team.	Done		10/07/14
2	SPADES PDA Ingest, Storage, and Processing Segments completed	Done	01/22/15	03/04/15
3	(New) Fund an additional Agile team Programmer, providing comfortable margin for CS. C3->C2	Done	05/20/15	05/20/15
4	SPADES ~~GRB Ingest and~~ Control Segment completed.	Pending	Q1CY16	Q1CY16
5	SPADES Monitoring Segment completed.	Pending	Q3CY16	Q3CY16

Timeframe:

Near-Term – Define CS/MS interfaces to PS
Complete SPADES Increment 2

Middle-Term – Implement SPADES CS/MS.

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Program Risks

Risk ID 3 – L2+ Processing Requirements

Risk Description

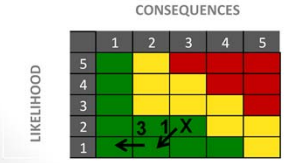
IF the computational resource requirements for processing L2+ algorithms are significantly higher than expected THEN additional hardware may be required, impacting cost and (if additional equipment must be ordered) schedule.

Owner: W. Rowland

Potential Impact: Cost and Schedule

Status

- 10/08/14 – Based on existing documentation attempted to plan hardware that should be suitable. Past testing was not done on a common platform, which contributes to this risk.
- 09/31/15 – Increment 1 algorithm work completed, all algorithms performant on an inferior server, but physical hardware not yet installed for final/rigorous benchmarking.



Current Risk Level & Mitigation Plan

Likelihood: 2	Consequence: 3	Criticality: L

Steps	Mitigation	Status	Start	Finish
1	Algorithm Set 1 installed and tested.	Pending	01/01/14	09/31/15
2	Algorithm Set 2 installed and tested.	Pending	10/01/15	03/31/16
3	Algorithm Set 3 installed and tested.	Pending	04/01/16	09/31/16

Timeframe:

Mid-Term – Install & test algorithms; assess processing loads

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Program Risks

Risk ID 4 – Transition Plan

Risk Description

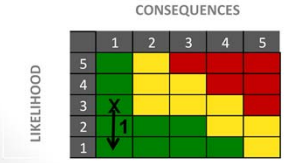
IF NWS stakeholder representative is not available during development of the Transition Plan THEN significant disconnects may exist when Transition Plan is Baselined.

Owner: W. Rowland

Potential Impact: Technical

Status

- 11/01/15 – Risk has been discussed exhaustively, but NWS funding for the position is not present.
- 11/15/15 – Currently discussing the possibility of an NRAP appointee acting as NWS stakeholder for this activity.



Current Risk Level & Mitigation Plan

Likelihood: 3	Consequence: 1	Criticality: L

Steps	Mitigation	Status	Start	Finish
1	Obtain support from NRAP appointee from NWS to act as NWS stakeholder during SPADES Transition Plan development.	Pending	11/01/15	12/01/15

Timeframe:

Near-Term – Pursue appointment of NWS NRAP appointee to fill NWS Stakeholder role during development.

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SPADES IOCR
Outline

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Wrap-Up

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END

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