CERES DATA MANAGEMENT TEAM WORKING GROUP REPORT

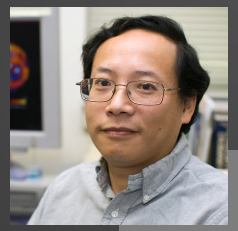
KATHLEEN D. MOORE

MAY 16, 2017

DMT ORGANIZATION – SUBSYSTEM STAFF

Instrument

- Denise Cooper
- Thomas Grepiotis
- Dianne Snyder
- Mark Timcoe



ERBE-like

- Dale Walikainen
- Jeremie Lande

Clouds

- Sunny Sun-Mack
- Ricky Brown
- Yan Chen
- Liz Heckert
- Rita Smith

DMT ORGANIZATION – SUBSYSTEM STAFF

Inversion

- Victor Sothcott
- Igor Antropov

SARB

- Tom Caldwell

DMT ORGANIZATION – SUBSYSTEM STAFF

TISA Gridding

- Josh Wilkins

TISA Averaging

- Cathy Nguyen
- Ed Kizer

DMT ORGANIZATION – SUBSYSTEM STAFF

Systems/Optimization

- Nelson Hillyer
- Michael Linsinbigler

Production/Optimization

Carla Grune

Product Web Support

- Churngwei Chu
- Cristian Mitrescu

Configuration Mgmt.

- Tammy Ayers
- Dennis Keyes
- Joanne Saunders

Task Manager

Walt Miller

DMT OVERALL TASKS

Algorithms

- Implementation
- Verification
- Validation assistance

$$Z = \sum_{i=0}^{n} (\Delta C_i/\sigma C_i)^2 + \sum_{j=1}^{m} (\Delta v_j/\sigma v_j)^2 + \sum_{k=1}^{l} (\Delta F_k/\sigma F_k)^2 \qquad (3)$$

where on the r.h.s. the first term represents the cloud fraction adjustm
er model variable adjustments, and the third term the flux compone

Equation (4) below restricts the solution such that the sum of the cl
This prevents unrealistic solutions (i.e.., sum of adjusted total fracti

$$X = \sum_{i=0}^{n} \Delta C_i = 0 \qquad (4)$$

Software

- Maintenance
- Configuration management

```
if ( dato(i,1) == -1 .and. dat(i,1) > 0.0 .and. dat(i,1)< 10000 ) then

 if (ifill == 1) then
  qc_validflag_sahclim_global (i) = 1
 endif

 if (ifill == 2) then
  qc_validflag_epoch_global (i) = 1
 endif

 qc_validflag_all_global(i) = 1

 dato(i,1:np) = dat(i,1:np)
endif

if ( dato(i,1) == -1  .and. ifill .eq. 2 ) then !LAST RESORT IGBP Based
 igbp1 = igbp(i)
 u0ohs = 1.0
 wv = 1.0 ! Pw(cm)
 call land_spec (igbp1, u0ohs, wv,  spec18_dum, bbalb)
 dato(i,1) = bbalb*10000
 dato(i,2) = u0ohs*1000
```

RECENT DMT ACTIVITY

DELIVERIES SINCE 10/18/16:

36 DROPBOX/COEFFICIENT
33 CODE
69

DELIVERIES SINCE 10/18/16

INSTRUMENT (4)

Gains, FM6 testing

INVERSION (4)

x86 compatibility

TISA GRIDDING (2)

Scripts robust to GEOS satellites, ancillary text file updates

DELIVERIES SINCE 10/18/16

TISA AVERAGING (4)

Updated snow/ice directional models, temporal and spatial restrictions, Terra+S-NPP support

SARB (2)

Terra+S-NPP support

ERBE-like (1)

New PGE to process FM6 PRES8s

DELIVERIES SINCE 10/18/16

CERESLib (2)

FM6 support

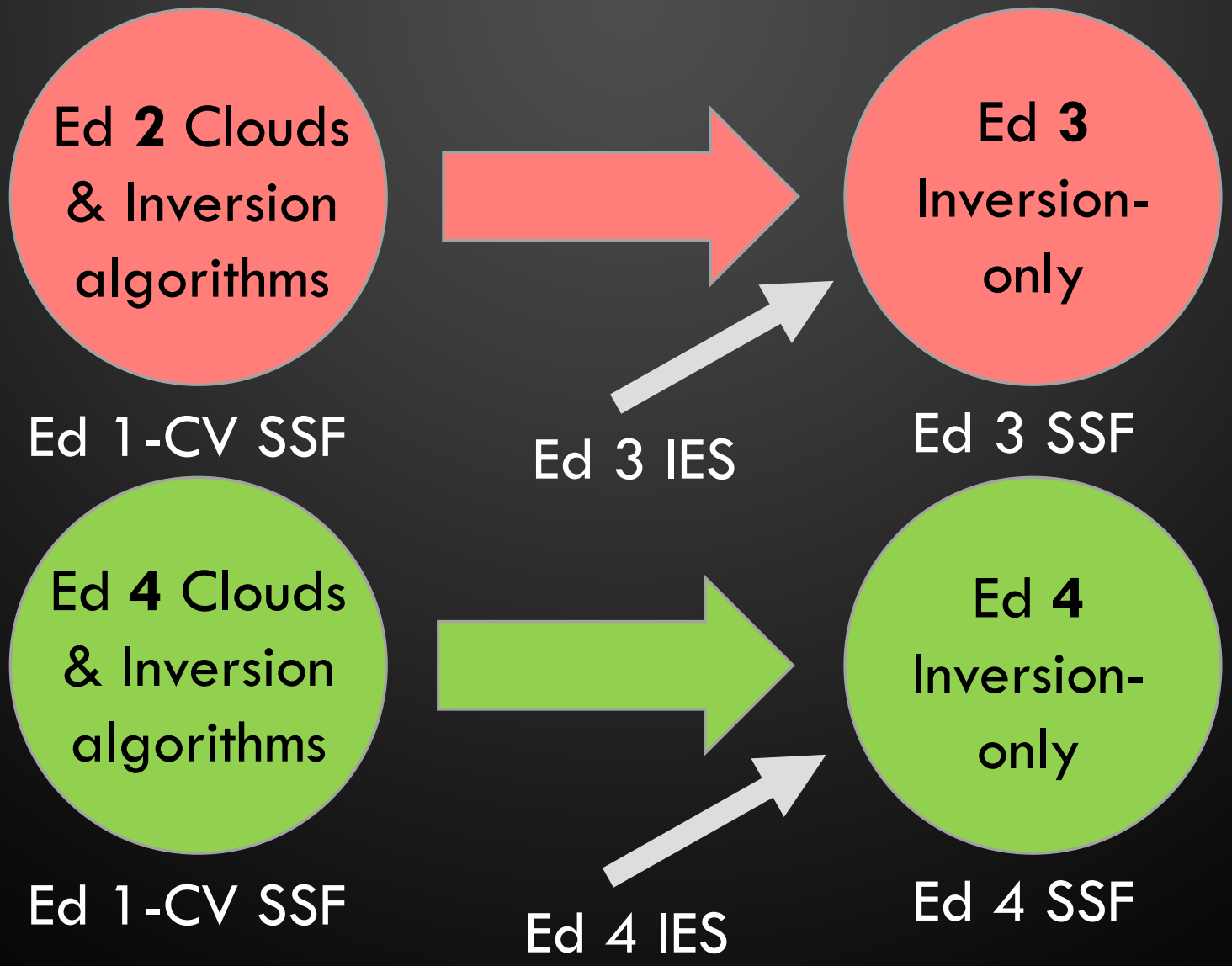
CATALYST (7)

PGE automation support (Baseline-1QC, ERBE-like, Clouds Snow/Ice maps), duplicate-PR fix, log database gap accounting

PR Tool (7)

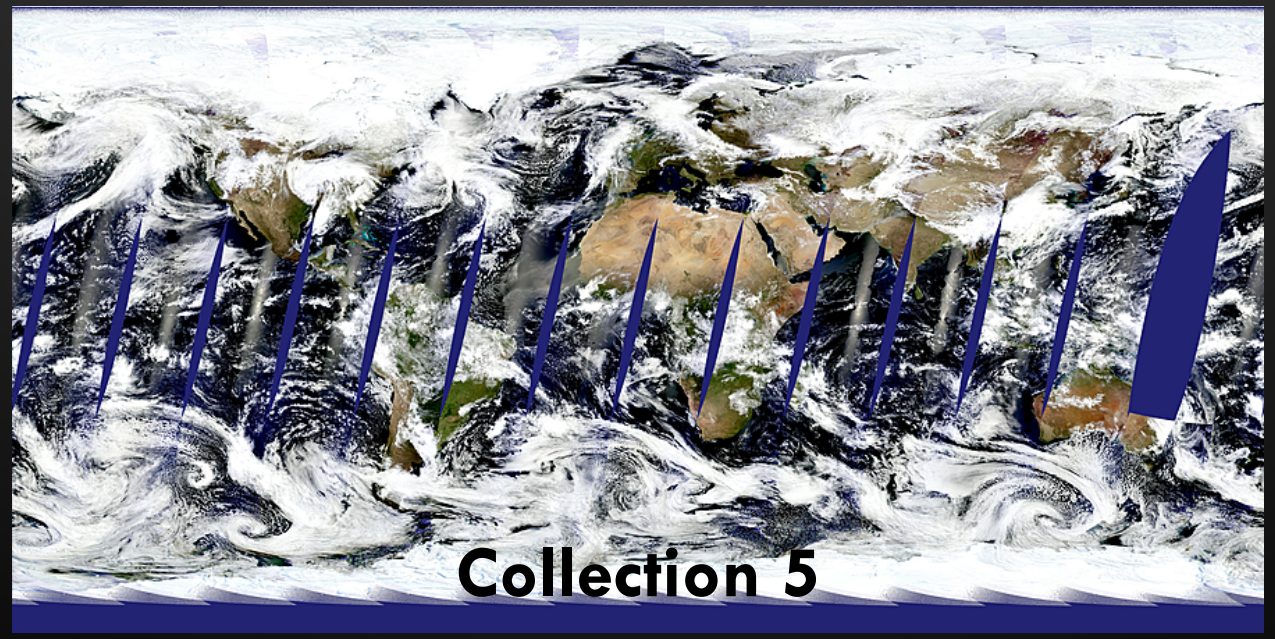
CATALYST PGE support, admin changes, Terra+S-NPP support, FM6 support

DEPRECATION OF EDITION 3 PGES

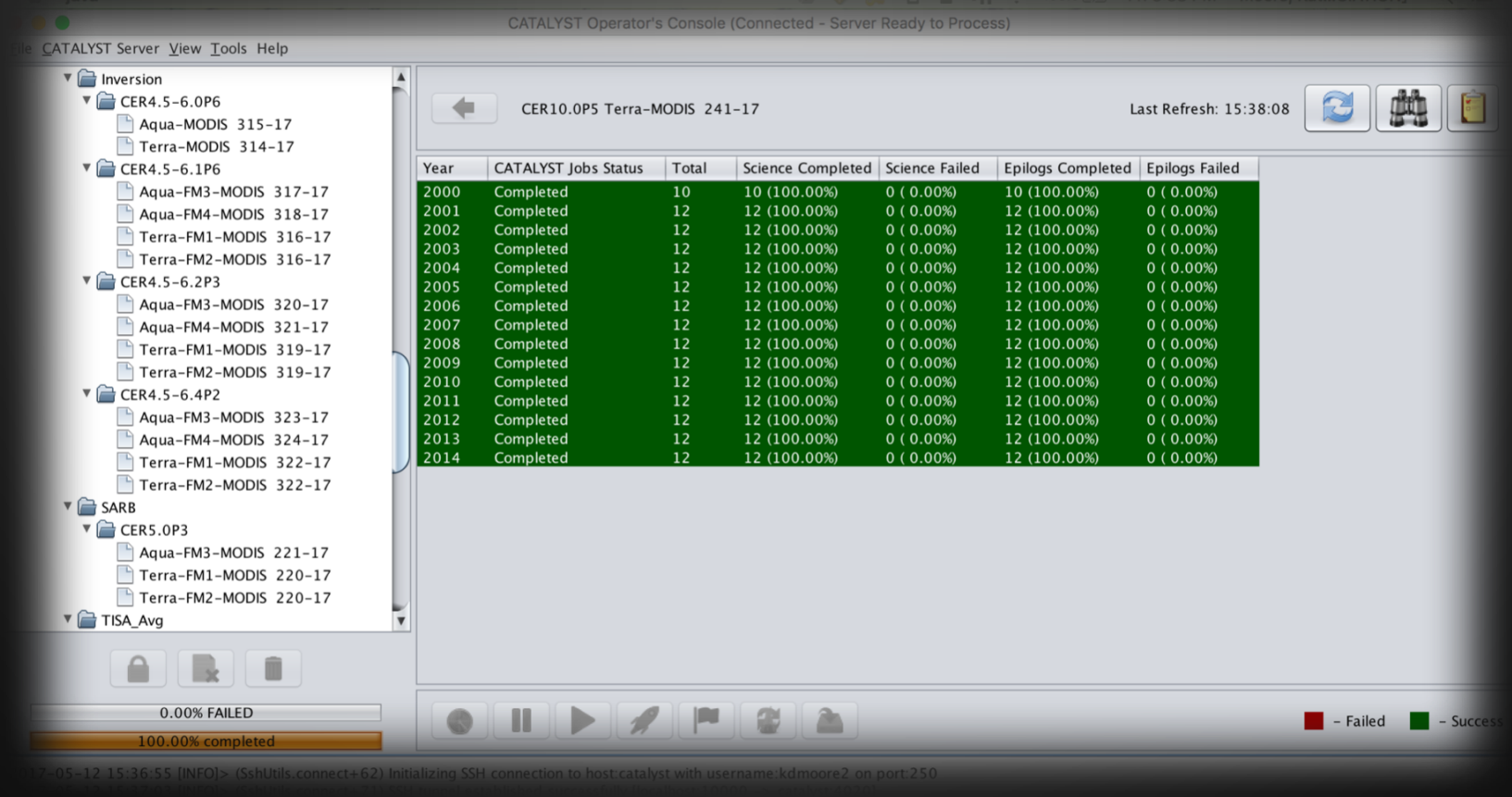


DEPRECATION OF EDITION 3 PGES

- Deprecated 8 of 26 PGEs (to be deprecated) → 31%
- Completion projected: June 2017
- MODIS Collection 5 To 6



CATALYST



- Deployed Version 2.1
- Integrated 27 of 43 PGEs → 63%
- 100% CATALYST projected: August 2017

PRODUCT AVAILABILITY

EDITION 3: *Phasing out this summer (data-date 3/31/17)*

Product	Platform	Processed Thru	Publically Available?
BDS	Terra & Aqua	Jan. '17	Yes
SSF	Terra & Aqua	Jan. '17	Yes
SFC	Terra & Aqua	Jan. '17	Yes
SSF1deg-Day & -Month	Terra & Aqua	Jan. '17	Yes
SYN1deg	Terra & Aqua	Oct. '16	Yes
ISCCP-D2like-Day/Nit	Terra & Aqua	Nov. '16	Yes
ISCCP-D2like-GEO	GEO	Nov. '16	Yes
ISCCP-D2like-Mrg	Terra & Aqua & Geo	Nov. '16	Yes
BDS Edition 1-CV	Terra & Aqua	Apr. '17	No
SSF Edition 1-CV	Terra & Aqua	Mar. '17	No

EDITION 4:

Product	Platform	Processed Thru	Expected Current	Publically Available?
BDS	Terra & Aqua	Jan. '17	May '17	Yes
SSF	Terra & Aqua	Dec. '16	May '17	Yes
SSF1deg-Hour	Terra & Aqua	Dec. '16	May '17	Yes
SSF1deg-Day/-Month	Terra & Aqua	Oct. '16	May '17	Yes
SYN1deg	Terra & Aqua	Oct. '16	July '17	No
CldTypHist	Terra & Aqua	Nov. '16	July '17	Yes

EDITION 1:

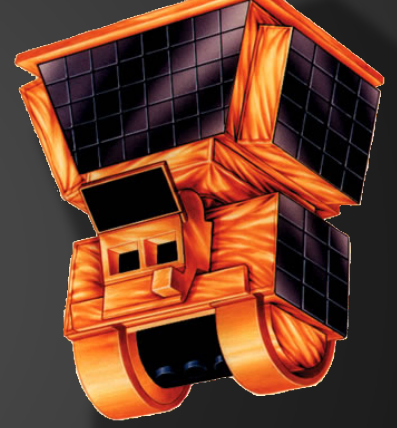
Product	Platform	Processed Thru	Expected Current	Publically Available?
BDS	S-NPP	Dec. '16	May '17	Yes
SSF		Dec. '16	May '17	Yes
SSF1deg-Hour		Nov. '16	May '17	Yes
SSF1deg-Day/-Month		Nov. '16	May '17	Yes
SYN1deg	Merged	(starting Summer)	Aug. '17	

RECENT PUBLIC RELEASES

- Ed 4 Terra & Aqua
  - SSF1deg-Day/-Month
  - CldTypHist
- Ed 1 S-NPP
  - SSF1deg-Hour
  - SSF1deg-Day/-Month

FM6

FM6



- Delivered JPSS-1 CERES FM6 instrument operations code
- Supported JCT4 and JCT5 JPSS-1 pre-launch data flow testing
- Same preprocessor will be used for FM6 on JPSS-1
- At-launch, daily, BDS and ES8 products for FM6

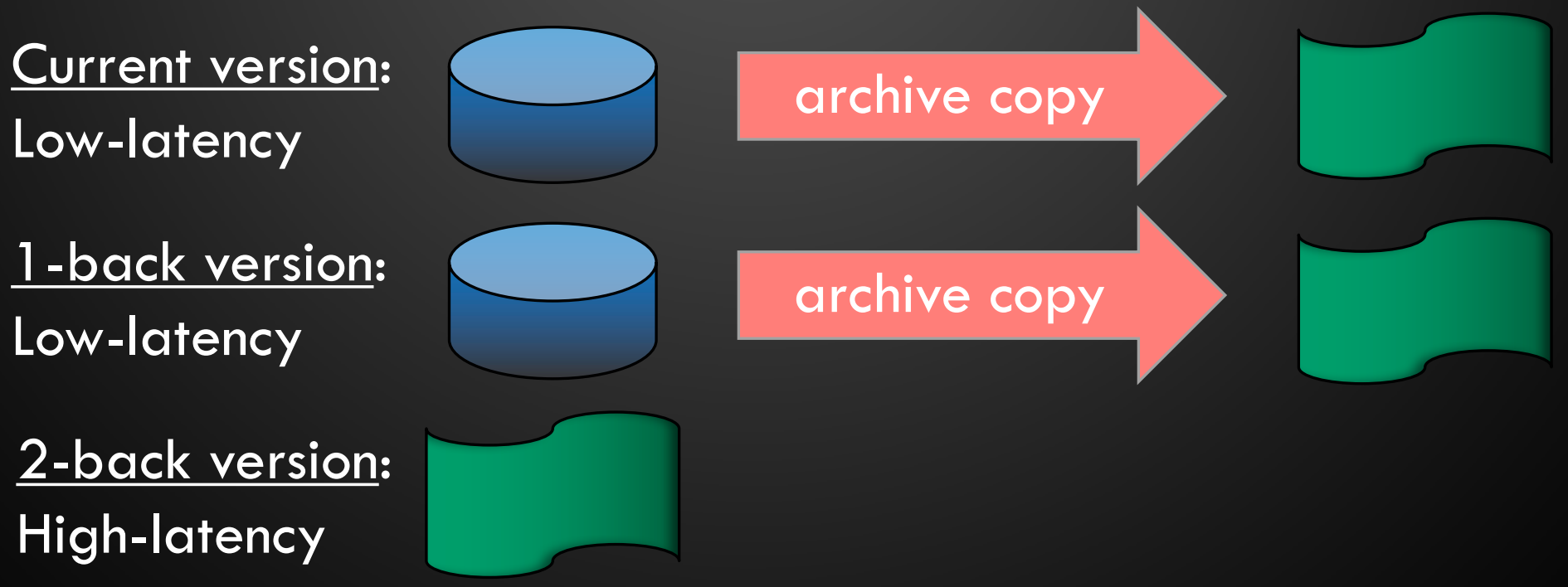
SYSTEMS & CM

SYSTEMS

- Powerchip to x86 architecture migration, some PGEs require Powerchips (7 outstanding to migrate)
- Will need Powerchips ~year more
- StorNext/DPO to IBM HPSS storage migration

SYSTEMS

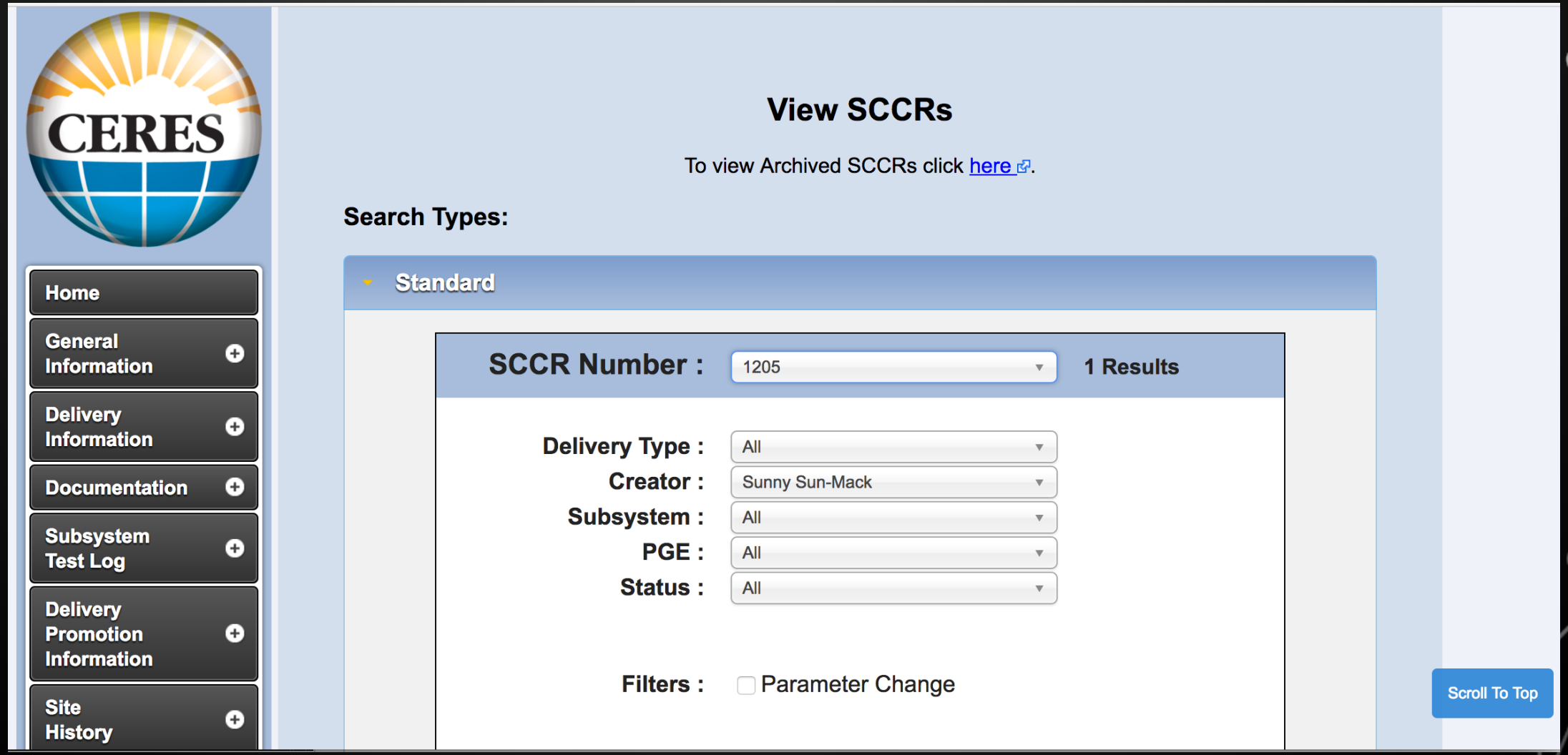
CERES/ASDC Data Policy Plan



SYSTEMS

- Re-runs of PGEs are the biggest obstacles
- VIIRS, MODIS data availability (or lack thereof), and availability of other ancillary datasets can significantly impact us

NEW SCCR WEBSITE



NEW SCCR WEBSITE

Site History

Contact

SCCR Number:	Subsystem:	Current SCCR Status:	Created By:
1205 **Delivery Type:** PGE	Clouds	Submitted 2017-05-11 15:29:30	Sunny Sun-Mack **Created On:** 2017-01-04 09:42:26

Delivery Summary:

Switch input MODIS data from Collection5 to Collection 6 for CERES Clouds Ed4.

PGE(s) Being Delivered:	Platform(s)
4.1-4.1P6	AMI-x86
4.1-4.2P4	AMI-x86
4.1-4.2P5	AMI-x86
4.1-4.3P3	AMI-x86

Description & Reason for Change (Science):	Requirement ID:
Switch input MODIS data from Collection 5 to Collection 6 for CERES Clouds Ed4.	xxxxx

Description & Reason for Change (non-Science):	Requirement ID:

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NEW SCCR WEBSITE

SSF-114d Mean cloud infrared emissivity for multilayer
SSF-114e Mean cloud top pressure for multilayer
SSF-114f Mean cloud top temperature for multilayer
SSF-114g Mean cloud top height for multilayer
SSF-114h Mean cloud particle phase for multilayer (3.7)
SSF-114i Mean water particle radius for multilayer (3.7)
SSF-114j Mean ice particle effective radius for Multilayer (3.7)
SSF-114k Mean water particle radius for Multilayer (2.1)
SSF-114l Mean ice particle effective radius for multilayer (2.1)

Reason for Parameter Change:

The changes made in “Science Changes” above will affect all SSF parameters listed above.

Affected Downstream PGE(s):

4.5-6.2P2
7.2.1P1

Estimated Time to Complete Change:

TBD

Planned Delivery Date:

2017-06-02

Delivery Comment:

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NEW SCCR WEBSITE

Revision Record:

Click on a row to view a snapshot of the SCCR at the corresponding state.

State	Date	Editor	Comment
Submitted	2017-05-11 15:29:30	Rita Smith	Moving to a later date for delivery due to need for more testing
Approved	2017-04-26 14:36:06	Tammy Ayers	New delivery date approved.
Submitted	2017-04-12 15:54:16	Rita Smith	Need more time to settle calibration issue
Approved	2017-03-15 17:55:14	Tammy Ayers	Reviewed at the CPOB meeting on 03/15/17 and approved by Jonathan Gleason.
Submitted	2017-03-10 13:15:09	Rita Smith	Needed to delay delivery date
Approved	2017-01-04 16:00:33	Tammy Ayers	Migrated from original SCCR Website on 02/24/17.

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NEW SCCR WEBSITE

https://earth-www.larc.nasa.gov/cerescm/index.php

PRODUCTION COMMUNICATION W/ ASDC

Confluence | Spaces | People | Calendars | Create

Priority #, SCCR Number	JIRA Ticket Status	Comments
1) 1239 CATALYST PGE MODULE(S) 1245 PR TOOL DATABASE	• CERES-371 - SCCR 1239 SIT FUNCTION • CERES-372 - CATALYST PGE Modules 1.0P3, 1.1P8, 1.1P9, 2.2P1 (for SCCR 1239) EXECUTING TEST PLAN • CERES-383 - SCCR 1245 SIT FUNCTION • CERES-384 - PR Database (for SCCR 1245) EXECUTING TEST PLAN	
2) 1220 INVERSION 1252 INVERSION 1218 INVERSION 1219 INVERSION 1193 CATALYST PGE MODULE(S) 1254 CERESLIB 1205 CLOUDS	• CERES-324 - SCCR 1220 CM FUNCTION • CERES-325 - PGE CER4.5-6.0P6 (for SCCR 1220) CM TESTING COMPLETE • CERES-397 - SCCR 1252 CM FUNCTION • CERES-398 - PGE CER4.5-6.1P6 (for SCCR 1252) CM TESTING • CERES-320 - SCCR 1218 CM FUNCTION • CERES-321 - PGE CER4.5-6.2P3 (for SCCR 1218) IN CM QUEUE • CERES-322 - SCCR 1219 CM FUNCTION • CERES-323 - PGE CER4.5-6.4P2 (for SCCR 1219) CM TESTING COMPLETE • CERES-270 - SCCR 1193 IN DMT DEVELOPMENT • CERES-271 - CATALYST PGE Module 4.1-4.1P6 update (for SCCR 1193) IN DMT DEVELOPMENT • CERES-399 - SCCR 1254 IN DMT DEVELOPMENT • CERES-400 - CERESlib updated GRing.f90 module (for SCCR 1254) IN DMT DEVELOPMENT • CERES-293 - SCCR 1205 IN DMT DEVELOPMENT • CERES-294 - PGE CER4.1-4.1P6 (for SCCR 1205) IN DMT DEVELOPMENT	1220 is a delta delivery to remove P6 platform. 1252 replaces 1217 and is now a full PGE delivery 1218 & 1219 are PGE deliveries to change platform from P6 to x86.

PRODUCTION COMMUNICATION W/ ASDC

Confluence Spaces People Calendars Create

The above table is kept up to date with the information found here.

For each type of delivery below, tickets are shown for: SCCRs in development, most recent delivery for each Edition, recent redeliveries which require rerunning PGE(s) in production.

File Type	JIRA Ticket Number - Edition, File Type, Date Range, [Other Info], (SCCR Number), Ticket Status	Date Closed
Gains	~~CERES-408~~ - Edition1 Gains January-March 2017 NPP (for SCCR 1257) CLOSED	Target Delivery Date 12/May/17
	~~CERES-378~~ - Edition4 Gains December 2016 - January 2017 Terra/Aqua (for SCCR 1242) CLOSED	04/May/17
	~~CERES-376~~ - Edition3 Gains December 2016 - January 2017 Terra/Aqua (for SCCR 1241) CLOSED	21/Apr/17
	~~CERES-313~~ - Edition1 Gains September-December 2016 NPP (for SCCR 1214) CLOSED	31/Jan/17
SRFs	~~CERES-406~~ - Edition4 SRFs December 2016-January 2017 Terra/Aqua (for SCCR 1256) CLOSED	04/May/17
	~~CERES-396~~ - Edition3 SRFs December 2016-January 2017 Terra/Aqua (for SCCR 1251) CLOSED	21/Apr/17
MATCH Files	~~CERES-382~~ - Edition4 MATCH files Oct-Dec 2016 (for SCCR 1244) CLOSED	21/Mar/17
	~~CERES-381~~ - Edition2 MATCH files Oct-Dec 2016 (for SCCR 1244) CLOSED	21/Mar/17
GGEO Files	~~CERES-388~~ - Edition3 GGEO October-November 2016 (for SCCR 1247) CLOSED	31/Mar/17
	~~CERES-369~~ - Edition4 GGEO December 2016 (for SCCR 1238) CLOSED	10/Mar/17
SORCE File	~~CERES-394~~ - Update the SORCE TSI data file in the DPO through 3/31/2017 (for SCCR 1250) CLOSED	10/Apr/17

CONCLUSIONS

- TISA Averaging and Clouds PGE deliveries imminent
- CATALYST integration complete by this Summer
- Pre-Edition 5 evaluations beginning