

CERES System Configuration Change Request Submittal

Table 1: August 30, 2000 - Subsystem Status.

SS No.	SS Lead	Status	Problems
1.0	Escuadra /Cooper	<ul style="list-style-type: none"> Continuing analysis of the TRMM data. (Hess, Spence) Getting TRMM covers on data and processing for Task 37 as time permits. (Cooper) Continued monitoring Terra data production/ processing and providing data analysis support. (Cooper) Began work on updating a post-processor for Instrument Command Logs, to put the commands in time order rather than APID order. The current post-processor was built for TRMM data, testing now to insure that Terra data works correctly. (Szewczyk) Continued TRMM/Terra operations/analysis support. (Weaver) 	
2.0	Kizer	<ul style="list-style-type: none"> Discussed changes needed in ERBE-like Operator's Manuals with Maria Mitchum. (Kizer) Delivered ES8 HDF read software packages to the CERES CM to support dynamically allocated array sizes. (Kizer) Delivered ES4 and ES9 HDF read software packages to the CERES CM to support Edition2 files and dynamically allocated array sizes. (Kizer) Began verifying CERESlib meta_write.f90 module to accommodate the Terra and Aqua instrument sensors. Software bulletin is being verified before delivery to CERES CM. (Kizer) Met with Richard Green to discuss more checks that could be performed on the ES8 QC report. (Walikainen, Kizer) Continuing to make changes and add more functions to QC Checker software as suggested in meeting with Richard Green. (Walikainen, Kizer) Continuing to inspect ERBE-like Terra and TRMM output plots and QC reports on the Web. (Walikainen, Kizer) 	
3.0	Kizer	Combined with above.	

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4.1	Murray	<ul style="list-style-type: none">• Tested usage of products on Sun platform as replacements for SGI products (GIMP,XMGrace). (R.Brown)• Sent the Clouds delivery to CM and assisted in SSI&T as needed. Delivery CER4.1-4.4P1 to CM. (Subset Imager Data PGE). (Murray, R.Brown)• Continued execution of January 1998 for algorithm validation. (R. Brown, Murray)• Communicated with Gardard DAAC about MODIS reflectance definitions. (Sun-Mack)• Communicated with Todd Berendes about IVICS and potential support of our applications. (Sun-Mack)• Did a VIRS/MODIS comparison on 1.6um reflectance both with and without 1.6um correction. (Sun-Mack)• Assisted Dave Doeling with the MODIS data. (Sun-Mack)• Began work on producing directional model and start-up maps for ALL 7 MODIS visible channels. (Sun-Mack)	
4.2	Murray	Combined with above.	
4.3	Murray	Combined with above.	
4.4	Miller	<ul style="list-style-type: none">• Assisted Tim in delivery including updating Test Plan and Operators Manual. (Miller)• Searched MODIS sites to find documentation on definition of reflectance we are provided. (Miller)• Provided extrapolation error based on difference between overcast radiance and the weighted average of the two cloud layer radiance for Dr. Loeb. (Miller)• Investigated parallel processing and optimization options on SGI F90 compiler. (Miller)	

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SS No.	SS Lead	Status	Problems
4.5	Nolan	<ul style="list-style-type: none"> Updated and tested inversion software and documentation and delivered to CM on August 18, 2000. (Franklin and Nolan) Created degraded PRES8s for March and April 2000 PFM FAPS days. (Nolan) Initiated work to update SSF read software and SSF 5 record sample package. (Franklin and Nolan) Completed work to regenerate and archive 8 months of TRMM SSF subset files, using new SSF subset type 115 definition. (Nolan) 	
4.6	Nolan	Combined with above.	
5.0	Coleman	<ul style="list-style-type: none"> Modifications to the Instantaneous SARB Subsystem due to the changes in the latest SSF structure were implemented. Continued development of surface albedo pre-processor. Continued updating CRS HDF post-processor to reflect current CRS. Completed updates to CERESlib routines used for printing CRS parameters. Updated software used to plot CERES validation regions to reflect recent additions. Began construction of web page to display this plot and a list of the validation regions. 	
7.2	Coleman	Combined with above.	
12.0	Coleman	<ul style="list-style-type: none"> Began modifications to ECMWF subsetting software to further automate the subsetting process. These modifications are to eliminate the need for future updates. 	
7.1	Nguyen/Raju	<ul style="list-style-type: none"> No new updates 	
8.0	Raju/Nguyen	<ul style="list-style-type: none"> No new updates 	
10.0	Nguyen/Raju	<ul style="list-style-type: none"> Begin testing codes using the GGEO cloud and GGEO clear-sky radiances. Continue studying the measured surface fluxes from the ARM and BSRN sites. 	

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SS No.	SS Lead	Status	Problems
6.0	McKoy	<ul style="list-style-type: none"> Completed running Subsystem 9.0 at the SCF for the months of Jan.,Feb., and Mar. 1998 for validation. Running Subsystem 6.0 at the SCF for the months of Jan.,Feb., and Mar. 1998 for validation. The vertical aspect ratio out of range problem is corrected in the latest version of SSF. In the previous version of SSF, this parameter was used to store the column averaged relative humidity. For the purpose of the data being generated at the SCF, this parameter is set to a default value. Modifying the design of the SFC HDF data product. 	
9.0	McKoy	Combined with above.	
11.0	Stassi/ Fan	<ul style="list-style-type: none"> Modified the HourQC.f90 module to calculate clearSky reflectance for channel one and clearSky brightness temperature for channel four. (Murray) Modified GOES-8 read routines to catch and correct input data with hour=24 in time stamp. (Stassi) Wrote a quick-read program to return the day and hour of a GMS B1 input file. This information is not contained in the filename. (Stassi) 	
CERESlib Stassi/ Fan		<ul style="list-style-type: none"> Wrote a F90 wrapper to the ceres_time.f90 module containing routines which can be called from a C function. Added a ceres_time.h C header file that can be used with this wrapper. (Stassi) Modified the MOA_Open_Wrapper_Alt() routine in the moa_io_read.f90 module to replace a Fortran CLOSE statement with a call to the CERESlib CloseFile() routine, which closes files using Toolkit routines. (Stassi) CERESlib was delivered to CM. (Ayers, Ayers) 	

Table 1: August 30, 2000 - Subsystem Status.

SS No.	SS Lead	Status	Problems
CM	Ayers	<ul style="list-style-type: none">• SCCRs submitted since last DMTM: 220 - 227; SCCRs updated since last DMTM: 207 & 208; Instrument or ERBE-like SCCRs to be reviewed for approval: 207, 208, 226, 227 (see following pages). (Ayers)• Tested and released the following software packages to the Langley DAAC: ERBE-like, Clouds, Inversion and CERESlib. (Ayers)• Delivered sample read packages for ES-4 and ES-8 to the Langley DAAC. (Ayers)• Added cerestst@larc.nasa.gov to the SCCR e-mail distribution list. (McKoy)• Posted an updated Delivery Schedule on the CERES CM home page. (Franklin)	
IST	Flug	<ul style="list-style-type: none">• No new updates	

CERES System Configuration Change Request Submittal

Subsystem: SS_ERBELIKE SCCR Date: 06/05/2000 SCCR Number: 207

Description of Change (Science):

1. Provided new day and night spectral correction coefficients for PFM, FM1, and FM2.
2. Modify ES4 gif file code.

Reason for Change (Science):

1. New spectral correction coefficients based on better spectral response functions.
2. Generate Net, Longwave, and Shortwave Cloud Forcing plots based on ES-4 data.

Description of Change (non-Science):

1. Update SS2 PCF generators.
2. Update SS3 PCF generators.
3. Replaced call to pgsio subroutine with calls to cereslib OpenFile and CloseFile subroutines in SS2 and SS3.
4. Eliminated input pointer list code in metadata subroutines.
5. Changed all source code Makefiles and run scripts to reflect FORTRAN compiled executables to have ".exe" suffix.

Reason for Change (non-Science):

1. Provide names of new spectral correction coefficient files in PCF. Eliminate seasonal files not needed during processing.
2. Add new ES4 Cloud Forcing gif file names.
3. Make use of cereslib subroutines to eliminate duplicate coding.
4. Cereslib OpenFile subroutine automatically adds filename of opened files to metadata input pointer list to be added to metadata file.
5. Allows for easier classification of executable files by naming convention.

Estimates Man Power: N/A

Schedule : Delivery to CM on or before July 21, 2000.

Impact : No impact to other subsystems.

Date: 06/05/2000 Status: SUBMITTED

Originator: KIZER, EDWARD A. (SAIC)

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ADDITIONAL CHANGES TO SCCR NO. 207:
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Description of Change (Science):

N/A

Reason for Change (Science):

N/A

Description of Change (non-Science):

6. Replaced calls to sysmsg subroutine with calls to msg_util, a new wrapper subroutine designed to call cereslib WriteReport subroutine.

Reason for Change (non-Science):

6. Make use of cereslib subroutines to eliminate duplicate coding.

Date & Time: 2000-06-20 14:01:10

Originator : KIZER, EDWARD A. (SAIC)

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Description of Change (Science):

3. Correction to #1: Provided new day and night spectral correction coefficients for FM1 and FM2 only. PFM spectral correction coefficients were not replaced.

Reason for Change (Science):

3. Correction to #1: New spectral correction coefficients based on better spectral response functions for FM1 and FM2 only. PFM spectral response functions were not updated.

Description of Change (non-Science):

7. Update the metadata subroutines to specifically assign the platform, instrument, and sensors to the proper metadata values.

8. Test version of QC Checker software was supplied with the ERBE-like production code.

Reason for Change (non-Science):

7. This was done to ensure all mandatory metadata values were to be set correctly during production runs.

8. The QC Checker software is in testing stages and supplied for evaluation purposes only.

Date & Time: 2000-08-22 15:57:42

Originator : KIZER, EDWARD A. (SAIC)

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CERES System Configuration Change Request Submittal

Subsystem: SS_1.0_Instrument SCCR Date: 06/05/2000 SCCR Number: 208

Description of Change (Science):

- 1) Fix reading of first packet of Level-0 data, this packet was previously skipped.
- 2) Add code to check for crosstalk between the radiance channels, return a 16-bit fill value for corresponding channels whenever crosstalk is detected.
- 3) Add new SDSs to the BDS: Time-Ordered analog parameters, and Drift corrected counts for each channel.
- 4) Fix the BDS Conversion to Pre-ES8 to not pass on records where the spacecraft location has been set to a fill-value due to problems with the ephemeris/attitude data files.
- 5) Update Edit limits for radiance count conversion and instrument housekeeping calculations.
- 6) Change Terra count conversion offsets from all zeros to ground determine values, since no deep space calibration has been preformed.

Reason for Change (Science):

Post-launch version of code for Terra. Preliminary updates for TRMM noisy data anomaly, remaining TRMM updates will be delivered at a later TBD date.

Description of Change (non-Science):

- 1) Update code to work with new SGI Ada 95 compiler, the new compiler found some bugs and non-standard implementations in the existing SS1 code.
- 2) Fix scripts to use new date scripts to calculate previous and next data dates, so that these calculations are in 1 place rather than repeated 7 times.
- 3) Fix scripts to use new parameter map read script, which removes the requirement that the scripts be in tcsh.
- 4) Add crosstalk check runtime parameter to scripts, at this time this parameter is set to OFF for Terra.
- 5) Add compression to the HDF write routines for the BDS to make the data product smaller, since we are adding new SDSs to the product.
- 6) Fix fatal error return from geolocation routines when problems with the ephemeris/attitude files are detected. Add one more ToolKit error code to the non-fatal error list for the geolocation routines.

- 7) Update the production QC report to add a new table, which shows the number of times crosstalk was detected between each pair of radiance channels.
- 8) Update the production QC report to remove the timing error report and move the timing error report to the instrument statistics QC report.
- 9) Add a flag to indicate when DAA ground spike has been detected.
- 10) Reformat BQCRPS detector_assy and instrument information.
- 11) Modified algorithm for the detector header DAC coarse/fine combined value.
- 12) Update code to flag when an Elevation scan rate glitch is detected.

Reason for Change (non-Science):

Upgrade of SGI systems which includes the new SGI Ada 95 compiler and various requested updates to QC reports requested by Instrument team and CERES team members.

Estimates Man Power:

Schedule : Delivery July 7, 2000 to CM

Impact : Reprocessing of all Terra data since launch, no reprocessing of TRMM data at this time, this will be done after the next delivery.

Date: 06/05/2000 Status: SUBMITTED

Originator: COOPER, DENISE L. (SAIC)

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ADDITIONAL CHANGES TO SCCR NO. 208:

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Description of Change (Science):

N/A

Reason for Change (Science):

N/A

Description of Change (non-Science):

- a) MODify Terra PCF generator script to always stage ephemeris and attitude 2-hr files in matched pairs.
- b) Fix NextDay.csh error for Dec. 31 to Jan. 1 calculation.

Reason for Change (non-Science):

- a) It was discovered that a ToolKit error, which needs to be treated as a fatal error in the SS1 code occurs when the ephemeris and attitude files are not staged in matched pairs.
- b) An incorrect variable name was used in the calculation of the year value for the transition from one year to the next.

Date & Time: 2000-08-22 11:46:35

Originator : COOPER, DENISE L. (SAIC)

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CERES System Configuration Change Request Submittal

Subsystem: SS_ERBELIKESCCR Date & TIME: 2000-08-28 10:18:15SCCR No.: 226

Description of Change (Science):

N/A

Reason for Change (Science):

N/A

Description of Change (non-Science):

Delivery of the ES4 HDF Read Software.

This supports the ES4 data files produced for Edition2 production strategies and beyond.

Note: This software will not support Edition1 ES4 HDF files.

Reason for Change (non-Science):

The ES4 HDF read software presently at the DAAC will not work with the new formatted ES4 HDF file introduced with Edition2.

Estimated Man Power: N/A

Schedule : N/A

Impact : N/A

Originator: KIZER, EDWARD A. (SAIC)

CERES System Configuration Change Request Submittal

Subsystem: SS_ERBELIKESCCR Date & TIME: 2000-08-28 11:17:41SCCR No.: 227

Description of Change (Science):

N/A

Reason for Change (Science):

N/A

Description of Change (non-Science):

Delivery of the ES8 HDF Read Software.

This supports ES8 HDF data files produced for all production strategies to date.

Reason for Change (non-Science):

The ES8 HDF read software presently at the DAAC didnot read production files. The arrays in the software were fixed for the 5 record ES8 HDF file. Arrays are now dynamically allocated to handle ES8 HDF files of any size.

Estimated Man Power: N/A

Schedule : N/A

Impact : N/A

Originator: KIZER, EDWARD A. (SAIC)