Clouds and the Earth's Radiant Energy System (CERES)

Data Management System

CERES Grid TOA and Surface Fluxes for Instantaneous Surface Product (Subsystem 9.0)

Release 5 Test Plan
Version 13

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Document Revision Record

The Document Revision Record contains information pertaining to approved document changes. The table lists the date the Software Configuration Change Request (SCCR) was approved, the Release and Version Number, the SCCR number, a short description of the revision, and the revised sections. The document authors are listed on the cover. The Head of the CERES Data Management Team approves or disapproves the requested changes based on recommendations of the Configuration Control Board.

Document Revision Record

SCCR Approval Date	Release/ Version Number	SCCR Number	Description of Revision	Section(s) Affected
06/25/01	R3V3	274	• The CC9 configuration code was updated from “000000” to “000001” in the expected output filenames. • Updated format to comply with standards.	Secs. 3.3, 4.5.1.2, 4.5.1.3, 4.6.1.1, 4.6.1.2, 4.7.1.1, & 4.7.1.2 All
09/25/01	R3V4	298	• The CC9 configuration code was updated from “000001” to “000000” in the expected output filenames. • Updated format to comply with standards.	Secs. 3.3, 4.2.1.2, 4.2.1.3, 4.3.1.1, 4.3.1.2, 4.4.1.1, 4.4.1.2, 4.5.1.2, 4.5.1.3, 4.6.1.1, 4.6.1.2, 4.7.1.1, & 4.7.1.2 All
11/13/01	R3V5	309	• The CC9.1 configuration code was updated from “111111” to ”009010” in the expected output filenames. • Updated format to comply with standards.	Secs. 3.3 & 4.1.1.3 All
03/15/02	R3V6	326	• Test output section was updated to remove range file name. • Updated format to comply with standards.	Sec. 3.3 Sec. 4.8 All
07/08/02	R3V7	374	• The CC9 and CC6 configuration codes were updated from “000000” to “000001” in the expected output filenames. • Updated format to comply with standards.	Secs. 3.3, 4.2.1.2, 4.2.1.3, 4.3.1.1, 4.3.1.2, 4.4.1.1, 4.4.1.2, 4.5.1.2, 4.5.1.3, 4.6.1.1, 4.6.1.2, 4.7.1.1, & 4.7.1.2 All

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10/04/02	R3V8	388	• A second automated script is added. The runtest1 script tests Subsystem 6 PGEs with TRMM input. The runtest script tests Subsystem 9 PGEs with Terra data.	Sec. 3.2
10/04/02 (Cont'd)	R3V8	388	• Update the list of expected output from automated tests. New outputs added for CER9.1-4 December 2000 tests (runtest script). Outputs for CER9.2-4 February 1998 were removed. • Now two sets of test procedures for PGE CER9.1P1: one with 199802 date for testing TRMM data and one with 200012 date for testing Terra. • Changed from env-variable-test-set.csh script to env-variable-test1-set.csh for the Subsystem 6 PGEs. • Changed TRMM-PFM-VIRS_ ValidationR3 code to Terra-FM2-MODIS_TestSuite1 in the output file names for PGEs CER9.2-4P1. • Updated format to comply with standards.	Sec. 3.3 Secs. 4.1 & 4.2 Secs. 4.3.1, 4.4.1, & 4.5.1 Secs. 4.6.1.2, 4.6.1.3, 4.6.1.4, 4.7.1.1, 4.7.1.2, 4.7.1.3, 4.8.1.1, 4.8.1.2, & 4.8.1.3 All
12/02/02	R3V9	403	• Added new CCcode CC6_3 for PGE CER6.3P1. Added new CCcode CC9_4 for PGE CER9.4P1. • Updated format to comply with standards.	Secs. 4.5 & 4.8 All
01/23/03	R3V10	409	• Updated the list of expected output from automated tests for Subsystem 6.0 TRMM and Terra data processing. • Updated format to comply with standards.	Secs. 2.0, 3.0, 4.3, 4.4, & 4.5 All
02/10/03	R3V11	423	• Updated the list of expected output from automated tests for PGE6.3P1 for Terra data processing. • Updated format to comply with standards.	Secs. 3.3 & 4.5 All

Document Revision Record

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04/24/03	R3V12	435	• Updated tar file names and makefile. • Updated the list of expected output from automated tests for PGEs CER9.2P1, CER9.3P1, and CER9.4P1 for Aqua data processing. • Updated format to comply with standards.	Secs. 2.1 & 2.2 Secs. 3.0, 4.6, 4.7,& 4.8 All
10/29/03	R3V13	476	• Updated the list of expected output from automated tests for PGEs CER6.1P1, CER6.2P1, CER6.3P1, CER9.2P1, CER9.3P1, and CER9.4P1 for Terra data processing. • Updated format to comply with standards.	Secs. 3.0, 4.3, 4.4, 4.5, 4.6, 4.7, & 4.8 All
06/04/04	R4V1	535	• Updated the list of expected output from automated tests for PGEs CER6.1P1, CER6.2P1, CER6.3P1, CER9.2P1, CER9.3P1, and CER9.4P1 for Terra & Aqua data processing. • Updated format to comply with standards.	Secs. 3.0, 4.3, 4.4, 4.5, 4.6, 4.7, & 4.8 All
08/09/04	R4V2	548	• Removed PGEs 6.2, 6.3, 9.3, 9.4 expected output. • Added qa files. • Added evaluate script name that was missing in the previous version. • Updated format to comply with standards.	Sec. 3.3, Sec. 4.3.1.3 Sec. 4.6.2.1 All
11/04/04	R4V3	565	• Added separate Production Strategy, Configuration Code environment variables for each Subsystem 9 PGEs. • Updated output file names. • Updated format to comply with standards.	Sec. 2.1 Secs. 3.3 & 4.7 All
11/29/04	R4V4	571	• Separate environment variable scripts were created for each TISA Gridding PGE. • Updated format to comply with standards.	Secs. 2.1, 4.1.1, 4.2.1, 4.3.1, 4.4.1, 4.5.1, 4.6.1, 4.7.1, & 4.8.1 All

Document Revision Record

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02/07/05	R4V5	575	• Updated to use SGI 64-bit compiler instead of NAG 32-bit. • Updated the list of expected output from automated tests for PGEs CER6.1P1, CER6.2P1, and CER6.3P1 for Terra FM1, FM2 data processing. • Updated format to comply with standards.	Secs. 2.2.1 & 3.2 Secs. 3.0, 4.3, 4.4, & 4.5 All
09/15/05	R4V6	594	• Added two flags (manualrun, testrun) to environment variable scripts. • Updated format to comply with standards.	Sec. 2.1 All
04/02/08	R5V1	672	• Added test procedures for the new PGE CER9.0P1.	Sec. 4.2
10/21/08	R5V2	684	• Updated tar file names. • Updated the list of expected output in manual tests for PGE CER9.1P1. • Updated directory paths to comply with the new directory structure.	Sec. 2.1 Secs. 3.3 & 4.3 Sec. 4.3, Pgs. B6 - B-9
10/21/08	R5V3	685	• Updated directory paths to comply with the new directory structure. • Added “setenv PROD no” and “unlimit” statements. (02/04/09)	Secs. 2.1, 2.2, & 4.4 – 4.9 Secs. 4.4.1, 4.5.1, 4.6.1, 4.7.1, 4.8.1, & 4.9.1
11/25/09	R5V4	746	• Updated pcf, run scripts directory path location from bin directory to rcf directory for PGE CER9.0P1, and updated environment script names to be consistent with the other TISAgrid PGEs.	Secs. 2.2.4 & 4.2
11/25/09	R5V5	739	• New PGEs (CER9.2P2, CER9.3P2, CER9.4P2) to support Edition3. • Updated directory structure according to the SEC recommendations. • Updated File Description Tables.	Secs. 1.2.9 – 1.2.11 & Sec. 2.3 New Sections Secs 4.9, 4.10, 4.11 & App. C App. D

Document Revision Record

SCCR Approval Date	Release/ Version Number	SCCR Number	Description of Revision	Section(s) Affected
06/02/10	R5V6	789	• New PGEs (CER9.2P2, CER9.3P2, CER9.4P2) to support Edition3 process on *magneto* (*P4*).	Secs. 1.2.9 – 1.2.11 & 2.3 New Sections: 4.10, 4.11, & 4.12
			• Modified directory structure.	App. B
			• Updated File Description Tables.	App. C
03/22/10	R5V7	763	• New PGEs (CER9.0P2 and 9.0P3) to support ISCCP-D2like-Mrg processing on *AMI* (*P6*).	Secs. 1.25, 1.26, 2.1, 2.2.5, 2.2.6, 4.3, & 4.4
			• Added QA file information and directory path in front of the commands.	Secs. 4.3 & 4.4
07/25/12	R5V8	914	• Modified executable names, source set_cputype to generate executables in *AMI-P6* environment.	Secs. 2.3.1, 2.3.2, & 2.3.3
			• Modified scripts names and directory paths. Removed file names that no longer generate in *AMI-P6* environment.	Secs. 4.5.1, 4.5.2, & 4.5.3
			• Modified scripts names and directory paths. Removed file names that no longer generate in *AMI-P6* environment.	Secs. 4.12.1, 4.12.2, & 4.12.3
			• Added tables with run time for SGE form *AMI-P6* submission.	Table 4-10
			• Modified scripts names and directory paths. Removed file names that no longer generate in *AMI-P6* environment.	Secs. 4.13.1, 4.13.2, & 4.13.3
			• Added tables with run time for SGE form *AMI-P6* submission.	Table 4-11
			• Modified scripts names and directory paths. Removed file names that no longer generate in *AMI-P6* environment.	Secs. 4.14.1, 4.14.2, & 4.14.3
			• Added tables with run time for SGE form *AMI-P6* submission.	Table 4-12
			• Removed automated test section.	Sec. 3.0
			• Removed PGEs CER6.1P1, CER6.2P1, CER6.3P1, CER9.1P1 (trmm only), CER9.2P1, CER9.3P1, & CER9.4P1.	Secs. 1.2.1-1.2.3, 1.2.8-1.2.10, 2.2.1-2.2.3, 2.2.8-2.2.10, 4.1-4.1.3, 4.6-4.6.2, 4.7-4.7.3, 4.8-4.8.3, 4.9-4.9.3, 4.10-4.10.3, 4.11-4.11.3

Document Revision Record

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07/25/12 (Cont'd)	R5V8	914	• Updated C code in the filenames.	Secs. 3.4.1.1 & 3.4.1.2
			• Added a table to include the test runs.	Table 3-4
			• Updated tables to remove references to PGEs CER6.1P1, CER6.2P1, CER6.3P1, CER9.1P1 (trmm only), CER9.2P1, CER9.3P1, & CER9.4P1.	All Appendix C tables
			• Removed the PCF Generator instructions.	Secs. 3.4.1.1, 3.5.1.1, 3.6.1.1, & 3.7.1.1
			• Removed the command line execution instructions.	Secs. 3.4.1.2, 3.5.1.2, 3.6.1.2, & 3.7.1.2
12/25/12	R5V9	915	• Modified executable filenames.	Sec. 2.2.1
			• Added executable command to evaluate hdf outputs.	Sec. 2.2.2
			• Modified directory paths.	Sec. 3.1.1
			• Removed checking inputs.	Sec. 3.1.1.1
			• Removed the PCF Generator instructions.	Sec. 3.1.1.2
			• Removed the command line execution instructions.	Sec. 3.1.1.3
03/21/13	R5V10	961	• Added *x86* executable names.	Secs. 2.2.3, 2.2.4, & 3.2.1
			• Updated PGE executaion instructions to include *x86*.	
			• Updated runtime summary.	Table 3-2
			• Updated evaluation procedures.	Sec. 3.2.2.1
			• Updated PGE execution instructions to include *x86*.	Sec. 3.3.1.1
			• Updated runtime summary.	Table 3-3
			• Updated executable names created on *P6* and *x86*.	Secs. 2.2.3, 3.2.1.1, & 3.3.1.1
			• Updated output location directory and INSTANCE.	Secs. 3.2.1.1 & 3.3.1.1

Document Revision Record

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12/12/12	R5V11	940	• Added PGE CER9.0P4 for creating daily subset SSF. • Added PGE CER9.0P5 for creating FluxByCloudTyp data. • Added environment variables and new tar files for PGEs CER9.0P4 and CER9.0P5.	Secs. 1.2.4, 2.2.5, & 3.4 Secs. 1.2.5, 2.2.6, & 3.5 Sec. 2.1
06/14/14	R5V12	1018	• Initial delivery of PGE CER9.1P2 to process Edition4 PMOA version. • Added the note "This PGE is currently not active."	Secs. 1.2.7, 2.2.8, & 3.7 Secs. 3.4 & 3.5
04/16/14	R5V13	1010	• Initial delivery of PGE CER9.2P3 to process Edition4 version. • Initial delivery of PGE CER9.3P3 to process Edition4 version. • Initial delivery of PGE CER9.4P3 to process Edition4 version. • Modified compilation command. (09/09/2014)	Subsystem Overview, Secs. 1.2.11, 2.4.1, & 3.11 Subsystem Overview, Secs. 1.2.12, 2.4.2, & 3.12 Subsystem Overview, Secs. 1.2.13, 2.4.3, & 3.13 Secs. 2.2.8, 2.3.1, 2.3.2, 2.3.3, 2.4.1, 2.4.2, & 2.4.3

TABLE OF CONTENTS

Section Page

Document Revision Record ii

1.0 Introduction 1

1.1 Document Overview 1

1.2 Subsystem Overview 2

1.2.1 ISCCP-D2like Main Processor (PGE 9.0P1) 2

1.2.2 ISCCP-D2like-Mrg Pre Processor (PGE 9.0P2) 2

1.2.3 ISCCP-D2like-Mrg Main Processor (PGE 9.0P3) 2

1.2.4 CER9.0P4 Processor (Edition3 - PGE 9.0P4) 2

1.2.5 CER9.0P5 Processor (Edition3 - PGE 9.0P5) 2

1.2.6 Post-MOA Processor (PGE 9.1P1) 3

1.2.7 Post-MOA Processor (PGE 9.1P2) 3

1.2.8 CER9.2P2 Processor (Edition3 - PGE 9.2P2) 3

1.2.9 CER9.3P2 Processor (Edition3 - PGE 9.3P2) 3

1.2.10 CER9.4P2 Processor (Edition3 - PGE 9.4P2) 3

1.2.11 CER9.2P3 Processor (Edition4 - PGE 9.2P3) 3

1.2.12 CER9.3P3 Processor (Edition4 - PGE 9.3P3) 4

1.2.13 CER9.4P3 Processor (Edition4 - PGE 9.4P3) 4

2.0 Software and Data File Installation Procedures 5

2.1 Installation 5

2.2 Compilation 6

2.2.1 To create Main processor executable for PGE9.0P1 in *P6/x86* environments: 6

2.2.2 To create HDF output evaluation executable (hcmp) in *P6/x86* environments: 7

2.2.3 To create Main processor executable for PGE9.0P2: 7

2.2.4 To create Main processor executable for PGE9.0P3: 7

TABLE OF CONTENTS

Section Page

2.2.5 To create Main processor executable for PGE9.0P4: 8
2.2.6 To create Main processor executable for PGE9.0P5: 8
2.2.7 To create post moa processor executable for PGE9.1P1: 8
2.2.8 To create post moa processor executable for PGE9.1P2 8
2.3 Compilation for Edition 3 9
2.3.1 To create main processor executable for PGE9.2P2: 9
2.3.2 To create post processor executable for PGE9.3P2: 9
2.3.3 To create hdf processor executable for PGE9.4P2: 9
2.4 Compilation for Edition 4 10
2.4.1 To create main processor executable for PGE9.2P3: 10
2.4.2 To create post processor executable for PGE9.3P3: 10
2.4.3 To create hdf processor executable for PGE9.4P3: 10
3.0 Manual Test and Evaluation Procedures 12
3.1 CER9.0P1: Main Processor 12
3.1.1 Stand Alone Test Procedures 12
3.1.1.1 Execution 12
3.1.1.2 Exit Codes 15
3.1.1.3 Test Summary 15
3.1.2 Evaluation Procedures 15
3.1.2.1 Output Evaluation 15
3.1.3 Solutions to Possible Problems 16
3.2 CER9.0P2: ISCCP-D2like-Mrg Pre Processor 17
3.2.1 Stand Alone Test Procedures 17
3.2.1.1 Execution 17

TABLE OF CONTENTS

Section Page

3.2.1.2 Exit Codes 19
3.2.1.3 Test Summary 19
3.2.2 Evaluation Procedures 20
3.2.2.1 Output Evaluation 20
3.2.3 Solutions to Possible Problems 21
3.3 CER9.0P3: ISCCP-D2like-Mrg Main Processor 22
3.3.1 Stand Alone Test Procedures 22
3.3.1.1 Execution 22
3.3.1.2 Exit Codes 23
3.3.1.3 Test Summary 24
3.3.2 Evaluation Procedures 24
3.3.2.1 Output Evaluation 24
3.3.3 Solutions to Possible Problems 25
3.4 CER9.0P4: Main Processor - (This PGE is currently not active.) 26
3.4.1 Stand Alone Test Procedures 26
3.4.1.1 PCF Generator 26
3.4.1.2 Execution 27
3.4.1.3 Exit Codes 27
3.4.1.4 Test Summary 27
3.4.2 Evaluation Procedures 28
3.4.2.1 Output Evaluation 28
3.4.3 Solutions to Possible Problems 28
3.5 CER9.0P5: FluxByCloudTyp Main Processor – (This PGE is currently not active) ... 29
3.5.1 Stand Alone Test Procedures 29

TABLE OF CONTENTS

Section Page

3.5.1.1 PCF Generator 29
3.5.1.2 Execution 30
3.5.1.3 Exit Codes 31
3.5.1.4 Test Summary 31
3.5.2 Evaluation Procedures 31
3.5.2.1 Output Evaluation 31
3.5.3 Solutions to Possible Problems 32
3.6 CER9.1P1: Post-MOA Processor 33
3.6.1 Stand Alone Test Procedures 33
3.6.1.1 Execution 33
3.6.1.2 Exit Codes 34
3.6.1.3 Test Summary 34
3.6.2 Evaluation Procedures 34
3.6.2.1 Output Evaluation 34
3.6.3 Solutions to Possible Problems 34
3.7 CER9.1P2: Post-MOA Processor – Edition4 35
3.7.1 Stand Alone Test Procedures 35
3.7.1.1 Execution 35
3.7.1.2 Exit Codes 36
3.7.1.3 Test Summary 36
3.7.2 Evaluation Procedures 36
3.7.2.1 Output Evaluation 36
3.7.3 Solutions to Possible Problems 36
3.8 CER9.2P2: SFC-HR Processor (Edition 3) 37

TABLE OF CONTENTS

Section Page

3.8.1 Stand Alone Test Procedures 37
3.8.1.1 Execution 37
3.8.1.2 Exit Codes 41
3.8.1.3 Test Summary 41
3.8.2 Evaluation Procedures 41
3.8.2.1 Output Evaluation 41
3.8.3 Solutions to Possible Problems 42
3.9 CER9.3P2: SFCB Postprocessor (Edition 3) 43
3.9.1 Stand Alone Test Procedures 43
3.9.1.1 Execution 43
3.9.1.2 Exit Codes 45
3.9.1.3 Test Summary 45
3.9.2 Evaluation Procedures 45
3.9.2.1 Output Evaluation 45
3.9.3 Solutions to Possible Problems 46
3.10 CER9.4P2: SFC HDF Processor (Edition 3) 47
3.10.1 Stand Alone Test Procedures 47
3.10.1.1 Execution 47
3.10.1.2 Exit Codes 48
3.10.1.3 Test Summary 48
3.10.2 Evaluation Procedures 49
3.10.2.1 Output Evaluation 49
3.10.3 Solutions to Possible Problems 49
3.11 CER9.2P3: SSF1deg-HR Processor (Edition 4) 50

TABLE OF CONTENTS

Section Page

3.11.1 Stand Alone Test Procedures 50
3.11.1.1 Execution 50
3.11.1.2 Exit Codes 53
3.11.1.3 Test Summary 53
3.11.2 Evaluation Procedures 53
3.11.2.1 Output Evaluation 53
3.11.3 Solutions to Possible Problems 54
3.12 CER9.3P3: SSF1degB Postprocessor (Edition 4) 55
3.12.1 Stand Alone Test Procedures 55
3.12.1.1 Execution 55
3.12.1.2 Exit Codes 57
3.12.1.3 Test Summary 57
3.12.2 Evaluation Procedures 57
3.12.2.1 Output Evaluation 57
3.12.3 Solutions to Possible Problems 58
3.13 CER9.4P3: SSF1deg-Hour HDF Processor (Edition 4) 59
3.13.1 Stand Alone Test Procedures 59
3.13.1.1 Execution 59
3.13.1.2 Exit Codes 60
3.13.1.3 Test Summary 60
3.13.2 Evaluation Procedures 61
3.13.2.1 Output Evaluation 61
3.13.3 Solutions to Possible Problems 61
References 62

TABLE OF CONTENTS

Section Page

Appendix A - Acronyms and Abbreviations A-1

Appendix B - Directory Structure Diagrams for Edition3 on *AMI* B-1

Appendix C - File Description Tables C-1

C.1 Production Scripts C-1

C.2 Executables C-2

C.3 Status Message Files C-3

C.4 Processing Control Files (PCF) and Metadata Control Files (MCF) C-4

C.5 Ancillary Input Data C-5

C.6 Output Temporary Data Files (Production Results) C-6

LIST OF FIGURES

Figure Page

Figure B-1. Directory Structure for Subsystems 6 and 9 within the TISA_grid Working Group B-1

LIST OF TABLES

Table Page

Table 3-1. Run Times for PGE CER9.0P1 15
Table 3-2. Run Times for PGE CER9.0P2 19
Table 3-3. Run Times for PGE CER9.0P3 24
Table 3-4. Run Times for PGE CER9.0P4 27
Table 3-5. Run Times for PGE CER9.0P5 31
Table 3-6. Run Times for PGE CER9.1P1 34
Table 3-7. Run Times for PGE CER9.1P2 36
Table 3-8. Run Times for PGE CER9.2P2 41
Table 3-9. Run Times for PGE CER9.3P2 45
Table 3-10. Run Times for CER9.4P2 49
Table 3-11. Run Times for PGE CER9.2P3 53
Table 3-12. Run Times for PGE CER9.3P3 57
Table 3-13. Run Times for CER9.4P3 60
Table C.1-1. Production Scripts C-1
Table C.2-1. Executables C-2
Table C.3-1. Status Message Files C-3
Table C.4-1. Metadata Control Files C-4
Table C.4-2. Process Control Files[1] C-4
Table C.5-1. Ancillary Input Data C-5
Table C.6-1. Output Temporary Data Files C-6

1.0 Introduction

CERES is a key component of EOS and NPP. The first CERES instrument (PFM) flew on TRMM, four instruments are currently operating on the EOS Terra (FM1 and FM2) and Aqua (FM3 and FM4) platforms, and NPP (FM5) platform. CERES measures radiances in three broadband channels: a shortwave channel (0.3 - 5 μm), a total channel (0.3 - 200 μm), and an infrared window channel (8 - 12 μm). The last data processed from the PFM instrument aboard TRMM was March 2000; no additional data are expected. Until June 2005, one instrument on each EOS platform operated in a fixed azimuth scanning mode and the other operated in a rotating azimuth scanning mode; now all are typically operating in the fixed azimuth scanning mode. The NPP platform carries the FM5 instrument, which operates in the fixed azimuth scanning mode though it has the capability to operate in a rotating azimuth scanning mode.

CERES climate data records involve an unprecedented level of data fusion: CERES measurements are combined with imager data (e.g., MODIS on Terra and Aqua, VIIRS on NPP), 4-D weather assimilation data, microwave sea-ice observations, and measurements from five geostationary satellites to produce climate-quality radiative fluxes at the top-of-atmosphere, within the atmosphere and at the surface, together with the associated cloud and aerosol properties.

The CERES project management and implementation responsibility is at NASA Langley. The CERES Science Team is responsible for the instrument design and the derivation and validation of the scientific algorithms used to produce the data products distributed to the atmospheric sciences community. The CERES DMT is responsible for the development and maintenance of the software that implements the science team's algorithms in the production environment to produce CERES data products. The Langley ASDC is responsible for the production environment, data ingest, and the processing, archival, and distribution of the CERES data products.

1.1 Document Overview

This document, the CERES Grid TOA and Surface Fluxes for Instantaneous Surface Product (Subsystem 9.0) Release 5, Version 8 Test Plan, is part of the CERES Subsystem 9.0 Release 5 delivery package to the Langley Atmospheric Science Data Center (ASDC). It provides a description of the CERES Subsystem 9.0 Release 5 software and it explains the procedures for installing, executing, and testing the software. Procedures for validating the test results are also provided in this document. Appendix A contains a list of Acronyms, Appendix B is the Directory Structure Diagrams for Edition3, and Appendix C provides the File Description Tables.

This document is organized as follows:

Section 1.0 - Introduction
Section 2.0 - Software and Data File Installation Procedures
Section 3.0 - Test and Evaluation Procedures
Appendix A - Acronyms and Abbreviations
Appendix B - Directory Structure Diagrams for Edition2 and Edition3
Appendix C - File Description Tables

1.2 Subsystem Overview

CERES Grid Single Satellite Fluxes and Clouds and Compute Spatial Averages and CERES Grid TOA and Surface Fluxes for Instantaneous Surface Product Subsystem 9 provide the transformation from instantaneous, instrument-referenced data to spatially-averaged Earth-referenced data. This Subsystem performs two major functions: gridding and spatial averaging. The gridding function assigns CERES footprints to the appropriate regional hour box. The spatial averaging function computes spatial averages of the various radiative flux parameters and cloud properties over each regional hour box. After passing through this Subsystem, the CERES data lose their traceability to specific CERES measurements. The input product of Subsystem 9 is Single Satellite TOA; Surface Flux and Cloud Pixels (SSF); and Meteorological, Ozone, and Aerosol (MOA). The output products are Single Satellite TOA, Surface Flux and Cloud Pixels (SFC); and Post Meteorological, Ozone, and Aerosol (PMOA). Details of the SSF, MOA, and SFC data products can be found in the CERES Data Management System Data Products Catalog (Reference 1). PMOA is an intermediate product produced and used only by the Time Interpolation and Spatial Averaging (TISA) Subsystems. Subsystem 9 consists of four Product Generation Executives (PGE) which are described in the following sections.

1.2.1 ISCCP-D2like Main Processor (PGE 9.0P1)

The PGE CER9.0P1 Main Processor grids and spatially averages the footprint data from the CERES Single satellite Cloud Pixels (SSF) data product. The footprints are assigned to a regional hour box based on GMT time associated with the footprint. The cloud information on the footprints in each regional hour box are calculated to derive D2-like 9 cloud types and D1-like 42 cloud type fractions and written to Monthly Gridded Single Satellite Clouds (ISCCP-D2like) HDF product.

1.2.2 ISCCP-D2like-Mrg Pre Processor (PGE 9.0P2)

The PGE CER9.0P2 Merge Pre Processor grids and spatially averages the footprint data from the CERES Single Satellite Cloud Pixels (SSF) data product. The footprints are assigned to a regional hour box based on GMT time associated with the footprint. The footprints in each regional hour box are averaged together and written to 180 zonal files.

1.2.3 ISCCP-D2like-Mrg Main Processor (PGE 9.0P3)

The PGE CER9.0P3 Merge Main Processor averages Terra and Aqua gridded CERES Single Satellite Cloud Pixels (SSF) data with the gridded Geostationary data (GGEO) and written to Monthly Gridded Clouds (ISCCP-D2like-Mrg) HDF product.

1.2.4 CER9.0P4 Processor (Edition3 - PGE 9.0P4)

The PGE CER9.0P4 Processor reads SSF HDF files for a given month and writes part of the data to binary daily SSF subset.

1.2.5 CER9.0P5 Processor (Edition3 - PGE 9.0P5)

The PGE CER9.0P5 Processor reads binary daily SSF subset filese for a given month and creates the netCDF daily FluxByCloudTyp data.

1.2.6 Post-MOA Processor (PGE 9.1P1)

The Post-MOA Processor processes the hourly MOA products for a given month to produce a monthly PMOA data product. The monthly PMOA data product is organized in four files which contain regional-hourly records sorted by region and then by hour for the CERES 1.0-degree nested regions. The Post-MOA Processor requires at least one day (24 hours) of MOA data in order to process; however, if available, it can process the whole month of MOA data, or it can process multiple days of MOA data. The PMOA data product is a subset of the MOA data product.

1.2.7 Post-MOA Processor (PGE 9.1P2)

The Post-MOA Processor processes the hourly MOA products for a given month to produce a monthly PMOA data product. The monthly PMOA data product is organized in four files which contain regional-hourly records sorted by region and then by hour for the CERES 1.0-degree nested regions. The Post-MOA Processor requires at least one day (24 hours) of MOA data in order to process; however, if available, it can process the whole month of MOA data, or it can process multiple days of MOA data. The PMOA data product is a subset of the MOA data product.

1.2.8 CER9.2P2 Processor (Edition3 - PGE 9.2P2)

The PGE CER9.2P2 Processor grids and spatially averages the footprint data from the CERES SSF data product. The footprints are assigned to a regional hour box based on the GMT time associated with the footprint. The footprints in each regional hour box are averaged together and written to an hourly SSF1deg-HR intermediate product.

1.2.9 CER9.3P2 Processor (Edition3 - PGE 9.3P2)

The PGE CER9.3P2 Processor sorts and merges the hourly SSF1deg-HR intermediate products for a given month to produce a monthly SSF1deg-HourB, SSF1deg-HourD data products. The monthly SSF1deg-HourB data product is organized in 180 zonal files that contain regional hour boxes sorted by region and then by hour. The monthly SSF1deg-HourD data product is organized in 31 daily files that contain regional hour boxes sorted by region and then by hour. The Processor only produces the monthly SSF1deg-HourB, SSF1deg-HourD files which contain regional hour box data.

1.2.10 CER9.4P2 Processor (Edition3 - PGE 9.4P2)

The PGE CER9.4P2 Processor converts the daily SSF1deg-HourD files for a given month into a daily SSF1deg-Hour HDF data product. The regional hour box data of a daily file is written to HDF VData where the records of the VData are sorted by region and then hour.

1.2.11 CER9.2P3 Processor (Edition4 - PGE 9.2P3)

The CER9.2P3 Processor grids and spatially averages the footprint data from the CERES SSF data product. The footprints are assigned to a regional hour box based on the GMT time associated with the footprint. The footprints in each regional hour box are averaged together and written to an hourly SSF1deg-HR intermediate product.

1.2.12 CER9.3P3 Processor (Edition4 - PGE 9.3P3)

The CER9.3P3 Processor sorts and merges the hourly SSF1deg-HR intermediate products for a given month to produce a monthly SSF1deg-HourB, SSF1deg-HourD data products. The monthly SSF1deg-HourB data product is organized in 180 zonal files that contain regional hour boxes sorted by region and then by hour. The monthly SSF1deg-HourD data product is organized in 31 daily files that contain regional hour boxes sorted by region and then by hour. The Processor only produces the monthly SSF1deg-HourB, SSF1deg-HourD files which contain regional hour box data.

1.2.13 CER9.4P3 Processor (Edition4 - PGE 9.4P3)

The CER9.4P3 Processor converts the daily SSF1deg-HourD files for a given month into a daily SSF1deg-Hour HDF data product. The regional hour box data of a daily file is written to HDF VData where the records of the VData are sorted by region and then hour.

2.0 Software and Data File Installation Procedures

This section describes how to install the Subsystem 9.0 TISA Gridding software in preparation for making the necessary test runs at the Langley ASDC. The installation procedures include instructions for uncompressing and untarring the delivered tar files, properly defining environmental variables, and recompiling the TISA Gridding software.

2.1 Installation

Software/Data File Install Procedure:
In the installation instructions, use the following definitions for the TAG variable, which is included in the file name of the delivery files.

TAG = R{R#}-{SCCR#}
where R# = CERES Software Release TISA Gridding Number
SCCR# = SCCR Number for TISA Gridding Delivery

Ex: TAG= R2-050
For CERES Software Release 3 and TISA Gridding SCCR #274

1. The scripts, makefiles, and Process Control files in the Subsystem 9 delivery package expect the following environment variables to be set:

CERESENV	-	Pathname and script name for ceres-env.csh
PGSDIR	-	Directory for Toolkit libraries
PGSMSG	-	Directory to store the PGS message files
PGSINC	-	Directory to store the PGS include files
F90	-	Pointer to the SGI 64 bit compiler
CERESHOME	-	Top Directory for CERES Software
CERESLIB	-	Directory for CERESlib ($CERESHOME/lib)
HDFDIR	-	Pointer to the HDF home directory
SS4_5	-	Sampling Strategy for SSF {FM1 for Terra; FM3 for Aqua}
SS4_5_2	-	Sampling Strategy for SSF {FM2 for Terra; FM4 for Aqua}
SS9	-	Sampling Strategy for SFC
SS9_0	-	Sampling Strategy for ISCCP-D2like
SS9_4	-	Sampling Strategy for SSFS-Day
SS9_5	-	Sampling Strategy for FluxByCloudTyp
SS12	-	Sampling Strategy for MOA
PS4_5	-	Production Strategy for SSF
PS9	-	Production Strategy for SFC
PS9_0	-	Production Strategy for ISCCP-D2like
PS9_4	-	Production Strategy for SSFS-Day
PS9_5	-	Production Strategy for FluxByCloudTyp
PS9_3	-	Production Strategy for SFCB, PGE CER9.3P2
PS12	-	Production Strategy for MOA
CC4_5	-	Configuration Code for SSF
CC9_1	-	Configuration Code for PMOA

CC9	-	Configuration Code for SFC, PGE CER9.2P2
CC9_0	-	Configuration Code for ISCCP-D2like
CC9_4	-	Configuration Code for SSFS-Day
CC9_5	-	Configuration Code for FluxByCloudTyp
CC9_3	-	Configuration Code for SFCB, PGE CER9.3P2
CC9_4	-	Configuration Code for SFC HDF, PGE CER9.4P2
CC12	-	Configuration Code for MOA
SW9_1	-	Software Configuration Code for PMOA
SW9	-	Software Configuration Code for SFC
SW9_0	-	Software Configuration Code for ISCCP-D2like
DATA9_1	-	Data Configuration Code for PMOA
DATA9	-	Data Configuration Code for SFC
DATA9_0	-	Data Configuration Code for ISCCP-D2like

2. Change directory to the directory where you plan to install the TISA Gridding Subsystems. (The following instructions assume that the directory will be $CERESHOME.)
3. Uncompress and untar the tar files by typing the following commands:

For most PGEs:

```
cp (or mv) TISAgrid9_*_{TAG}.tar.Z $CERESHOME
cd $CERESHOME
uncompress TISAgrid9_*_{TAG}.tar.Z
```

For CER9.0P4 or CER9.0P5 (replace XXX with SCCR number)

```
uncompress TISAgrid_src_9_4_R5-XXX.tar.Z
tar xvf TISAgrid_src_9_4_R5-XXX.tar
uncompress TISAgrid_src_9_5_R5-XXX.tar.Z
tar xvf TISAgrid_src_9_5_R5-XXX.tar
uncompress TISAgrid_data9_4_R5-XXX.tar.Z
tar xvf TISAgrid_data9_4_R5-XXX.tar
uncompress TISAgrid_data9_5_R5-XXX.tar.Z
tar xvf TISAgrid_data9_5_R5-XXX.tar
```

2.2 Compilation

1. Create the message files and message include file.

```
cd $CERESHOME/tisa_grid/smf
$CERESLIB/bin/smfcompile_all.csh
```

2. Complete the following steps to compile the TISA Gridding source code for each PGE.

2.2.1 To create Main processor executable for PGE9.0P1 in *P6*/*x86* environments:

```
set RCFDIR = $CERESHOME/tisa_grid/CER9.0P1/rcf
$RCFDIR/compile_9.0P1.csh
```

The following executables will be created in the **$CERESHOME/tisa_grid/CER9.0P1/bin** directory:

CER9.0P1_ppc64.exe on *P6* and **CER9.0P1_x86_64.exe on *x86***

2.2.2 To create HDF output evaluation executable (hcmp) in *P6/x86* environments:

cd $CERESHOME/tisa_grid/CER9.0P1/test_suites
make clean
make

The following executables will be created in the **$CERESHOME/tisa_grid/CER9.0P1/test_suites** directory:

hcmp_ppc64.exe on *P6* and **hcmp_x86_64.exe on *x86***

2.2.3 To create Main processor executable for PGE9.0P2:

set RCFDIR = $CERESHOME/tisa_grid/CER9.0P2/rcf
$RCFDIR/compile_9.0P2.csh

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.0P2/bin** directory:

CER9.0P2_ppc64.exe on *P6* and CER9.0P2_x86_64.exe on *x86*
cd $CERESHOME/tisa_grid/CER9.0P2/test_suites
make clean
make

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.0P2/test_suites** directory:

cmp_ISCCP-D2likeB_ppc64.exe on *P6*
cmp_ISCCP-D2likeB_x86_64.exe on *x86*

2.2.4 To create Main processor executable for PGE9.0P3:

set RCFDIR = $CERESHOME/tisa_grid/CER9.0P3/rcf
$RCFDIR/compile_9.0P3.csh

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.0P3/bin** directory:

On *P6:*
CER9.0P3premerge_ppc64.exe
CER9.0P3merge_ppc64.exe

On *x86:*

CER9.0P3premerge_x86_64.exe
CER9.0P3merge_x86_64.exe

2.2.5 To create Main processor executable for PGE9.0P4:

```
set SRCDIR = $CERESHOME/tisa_grid/CER9.0P4/src
cd $SRCDIR
make
```

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.0P4/bin** directory:

CER9.0P4_ppc64.exe

2.2.6 To create Main processor executable for PGE9.0P5:

```
set SRCDIR = $CERESHOME/tisa_grid/CER9.0P5/src
cd $SRCDIR/Norm_code
make
cd $SRCDIR/Main_lib/nc_dir
make
cd $SRCDIR/Main_lib
make
```

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.0P5/bin** directory:

CER9.0P5_ppc64.exe

2.2.7 To create post moa processor executable for PGE9.1P1:

```
source $CERESENV(SGI 64-bit version)
cd $CERESHOME/tisa_grid/CER9.1P1/rcf
./compile_9.1P1.csh
```

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.1P1/bin** directory:

tisa_post_moa_processor.exe

2.2.8 To create post moa processor executable for PGE9.1P2

```
source $CERESENV
source $CERESHOME/lib/common/set_cputype.csh
```

cd $CERESHOME/tisa_grid/CER9.1P2/rcf
./compile_9.1P2.csh

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.1P2/bin** directory:
CER9.1P2_${CPU_TYPE}.exe

2.3 Compilation for Edition 3

2.3.1 To create main processor executable for PGE9.2P2:

source $CERESENV
source $CERESHOME/lib/common/set_cputype.csh
cd $CERESHOME/tisa_grid/CER9.2P2/rcf
compile_9.2P2.csh

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.2P2/bin** directory:

CER9.2P2_${CPU_TYPE}.exe

2.3.2 To create post processor executable for PGE9.3P2:

source $CERESENV
source $CERESHOME/lib/common/set_cputype.csh
cd $CERESHOME/tisa_grid/CER9.3P2/rcf
compile_9.3P2.csh

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.3P2/bin** directory:

CER9.3P2_${CPU_TYPE}.exe

2.3.3 To create hdf processor executable for PGE9.4P2:

source $CERESENV
source $CERESHOME/lib/common/set_cputype.csh
cd $CERESHOME/tisa_grid/CER9.4P2/rcf
compile_9.4P2.csh

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.4P2/bin** directory:

CER9.4P2_${CPU_TYPE}.exe

2.4 Compilation for Edition 4

2.4.1 To create main processor executable for PGE9.2P3:

source $CERESENV
source $CERESHOME/lib/common/set_cputype.csh
cd $CERESHOME/tisa_grid/CER9.2P3/rcf
compile_9.2P3.csh

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.2P3/bin** directory:
CER9.2P3_${CPU_TYPE}.exe

cd $CERESHOME/tisa_grid/CER9.2P3/test_suites
make clean
make

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.2P3/test_suites** directory:
cmp_9.2P3_output_${CPU_TYPE}.exe

2.4.2 To create post processor executable for PGE9.3P3:

source $CERESENV
source $CERESHOME/lib/common/set_cputype.csh
cd $CERESHOME/tisa_grid/CER9.3P3/rcf
compile_9.3P3.csh

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.3P3/bin** directory:
CER9.3P3_${CPU_TYPE}.exe

cd $CERESHOME/tisa_grid/CER9.3P3/test_suites
make clean
make

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.3P3/test_suites** directory:
cmp_9.3P3_output_${CPU_TYPE}.exe

2.4.3 To create hdf processor executable for PGE9.4P3:

source $CERESENV
source $CERESHOME/lib/common/set_cputype.csh
cd $CERESHOME/tisa_grid/CER9.4P3/rcf
compile_9.4P3.csh

The following executable will be created in the **$CERESHOME/tisa_grid/CER9.4P3/bin** directory:

CER9.4P3_${CPU_TYPE}.exe

NOTES:

- The smfcompile_all.csh script and the makefile script will send a message to the screen at completion to indicate whether or not all operations performed were successful. If problems are encountered, contact one of the Tisa Gridding analysts before proceeding further.
- ASDC personnel may have an alternate procedure for compiling the message files. Any alternate procedure should copy all message include files to the $PGSINC directory and all message files to the $PGSMSG directory.

3.0 Manual Test and Evaluation Procedures

This section provides general information on how to execute Subsystem 9.0 and provides an overview of the test and evaluation procedures. It includes a description of what is being tested and the order in which the tests should be performed.

3.1 CER9.0P1: Main Processor

3.1.1 Stand Alone Test Procedures

Before testing PGE CER9.0P1, source the appropriate environment scripts and then set some additional general environment variables.

source $CERESENV (SGI 64-bit version)

set BINDIR = $CERESHOME/tisa_grid/CER9.0P1/bin
set RCFDIR = $CERESHOME/tisa_grid/CER9.0P1/rcf
set TESTDIR = $CERESHOME/tisa_grid/CER9.0P1/test_suites
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.0P1
set PCFDIR = $CERESHOME/tisa_grid/CER9.0P1/rcf/pcf
set DataArchive = $CERESHOME/tisa_grid/data

3.1.1.1 Execution

Terra FM1:

```
cd $RCFDIR
source env-variable_FM1.csh
set OUTDIR_Day = $DataArchive/ISCCP-D2like-Day/${SS9_0}_${PS9_0}
set OUTDIR_Nit = $DataArchive/ISCCP-D2like-Nit/${SS9_0}_${PS9_0}

setenv data_year 2002
setenv data_month 07
setenv DATADATE ${data_year}${data_month}
$RCFDIR/clean.pl $DATADATE
$RCFDIR/CER9.0P1-SGE_Driver.pl -date $DATADATE
```

After job completion of the main processor, PGE CER9.0P1, the following files will have been created:

In the **$OUTDIR_Day/$data_year/$data_month** directory:
CER_ISCCP-D2like-Day_Terra-FM1-MODIS_TestSuite_000000.200207
CER_ISCCP-D2like-Day_Terra-FM1-MODIS_TestSuite_000000.200207.met

In the **$OUTDIR_Nit/$data_year/$data_month** directory:
CER_ISCCP-D2like-Nit_Terra-FM1-MODIS_TestSuite_000000.200207
CER_ISCCP-D2like-Nit_Terra-FM1-MODIS_TestSuite_000000.200207.met

Terra FM2:

```
cd $RCFDIR
source env-variable_FM2.csh
set OUTDIR_Day = $DataArchive/ISCCP-D2like-Day/${SS9_0}_${PS9_0}
set OUTDIR_Nit = $DataArchive/ISCCP-D2like-Nit/${SS9_0}_${PS9_0}

setenv data_year 2002
setenv data_month 08
setenv DATADATE ${data_year}${data_month}
$RCFDIR/clean.pl $DATADATE
$RCFDIR/CER9.0P1-SGE_Driver.pl -date $DATADATE
```

After job completion of the main processor, PGE CER9.0P1, the following files will have been created:

In the **$OUTDIR_Day/$data_year/$data_month** directory:

CER_ISCCP-D2like-Day_Terra-FM2-MODIS_TestSuite_000000.200208
CER_ISCCP-D2like-Day_Terra-FM2-MODIS_TestSuite_000000.200208.met

In the **$OUTDIR_Nit/$data_year/$data_month** directory:

CER_ISCCP-D2like-Nit_Terra-FM2-MODIS_TestSuite_000000.200208
CER_ISCCP-D2like-Nit_Terra-FM2-MODIS_TestSuite_000000.200208.met

Aqua FM3:

```
cd $RCFDIR
source env-variable_FM3.csh
set OUTDIR_Day = $DataArchive/ISCCP-D2like-Day/${SS9_0}_${PS9_0}
set OUTDIR_Nit = $DataArchive/ISCCP-D2like-Nit/${SS9_0}_${PS9_0}

setenv data_year 2003
setenv data_month 01
setenv DATADATE ${data_year}${data_month}
setenv plfm p6
$RCFDIR/clean.pl $DATADATE
$RCFDIR/CER9.0P1-SGE_Driver.pl -date $DATADATE
```

After job completion of the main processor, PGE CER9.0P1, the following files will have been created:

In the **$OUTDIR_Day/$data_year/$data_month** directory:

CER_ISCCP-D2like-Day_Aqua-FM3-MODIS_TestSuite_000000.200301
CER_ISCCP-D2like-Day_Aqua-FM3-MODIS_TestSuite_000000.200301.met

In the **$OUTDIR_Nit/$data_year/$data_month** directory:

CER_ISCCP-D2like-Nit_Aqua-FM3-MODIS_TestSuite_000000.200301
CER_ISCCP-D2like-Nit_Aqua-FM3-MODIS_TestSuite_000000.200301.met

Aqua FM4:

```
cd $RCFDIR
source env-variable_FM4.csh
set OUTDIR_Day = $DataArchive/ISCCP-D2like-Day/${SS9_0}_${PS9_0}
set OUTDIR_Nit = $DataArchive/ISCCP-D2like-Nit/${SS9_0}_${PS9_0}

setenv data_year 2002
setenv data_month 12
setenv DATADATE ${data_year}${data_month}
$RCFDIR/clean.pl $DATADATE
$RCFDIR/CER9.0P1-SGE_Driver.pl -p $plfm -date $DATADATE
```

After job completion of the main processor, PGE CER9.0P1, the following files will have been created:

In the **$OUTDIR_Day/$data_year/$data_month** directory: directory:

CER_ISCCP-D2like-Day_Aqua-FM4-MODIS_TestSuite_000000.200212
CER_ISCCP-D2like-Day_Aqua-FM4-MODIS_TestSuite_000000.200212.met

In the $OUTDIR_Nit/$data_year/$data_month directory:

CER_ISCCP-D2like-Nit_Aqua-FM4-MODIS_TestSuite_000000.200212
CER_ISCCP-D2like-Nit_Aqua-FM4-MODIS_TestSuite_000000.200212.met

```
cd $TESTDIR
setVariables.csh Test

\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp
```

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

In the **$CERESHOME/tisa_grid/runlogs** directory:

FM1:

CER9.0P1_LogReport_Terra-FM1-MODIS_TestSuite_000000.200207
CER9.0P1_LogStatus_Terra-FM1-MODIS_TestSuite_000000.200207
CER9.0P1_LogUser_Terra-FM1-MODIS_TestSuite_000000.200207

FM2:

CER9.0P1_LogReport_Terra-FM2-MODIS_TestSuite_000000.200208
CER9.0P1_LogStatus_Terra-FM2-MODIS_TestSuite_000000.200208
CER9.0P1_LogUser_Terra-FM2-MODIS_TestSuite_000000.200208

FM3:

CER9.0P1_LogReport_Aqua-FM3-MODIS_TestSuite_000000.200301
CER9.0P1_LogStatus_Aqua-FM3-MODIS_TestSuite_000000.200301
CER9.0P1_LogUser_Aqua-FM3-MODIS_TestSuite_000000.200301

FM4:

CER9.0P1_LogReport_Aqua-FM4-MODIS_TestSuite_000000.200212
CER9.0P1_LogStatus_Aqua-FM4-MODIS_TestSuite_000000.200212
CER9.0P1_LogUser_Aqua-FM4-MODIS_TestSuite_000000.200212

3.1.1.2 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley TRMM Information System (LaTIS). Successful completion is indicated by an exit code of 0.

3.1.1.3 Test Summary

Table 3-1. Run Times for PGE CER9.0P1

	AMI-P6	***AMI-x86***
FM1 Test Case	~2 hours	~2 hours
FM2 Test Case	~2 hours	~2 hours
FM3 Test Case	~2 hours	~2 hours
FM4 Test Case	~2 hours	~2 hours

3.1.2 Evaluation Procedures

3.1.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.0P1 generated output with expected output. The eval_runtest.pl script will check the following outputs: (3) Logfiles, (4) .met files, and (1) ISCCP-D2like-Day/Nit HDF Output files.

To compare output file

FM1:

```
cd $TESTDIR
source $RCFDIR/env-variable_FM1.csh
$TESTDIR/eval_runtest.pl 1
$TESTDIR/eval_runtest.pl 2
$TESTDIR/eval_runtest.pl 3
$TESTDIR/eval_runtest.pl 4
```

FM2:

```
cd $TESTDIR
source $RCFDIR/env-variable_FM2.csh
$TESTDIR/eval_runtest.pl 1
$TESTDIR/eval_runtest.pl 2
$TESTDIR/eval_runtest.pl 3
$TESTDIR/eval_runtest.pl 4
```

FM3:

```
cd $TESTDIR
source $RCFDIR/env-variable_FM3.csh
$TESTDIR/eval_runtest.pl 1
$TESTDIR/eval_runtest.pl 2
$TESTDIR/eval_runtest.pl 3
$TESTDIR/eval_runtest.pl 4
```

FM4:

```
cd $TESTDIR
source $RCFDIR/env-variable_FM4.csh
$TESTDIR/eval_runtest.pl 1
$TESTDIR/eval_runtest.pl 2
$TESTDIR/eval_runtest.pl 3
$TESTDIR/eval_runtest.pl 4
```

There should be no reported differences.

3.1.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts. Few SDS/VDATA differences are expected when comparing the HDF outputs generated on *P6* and *x86*. Comparisons on PCF files may show CPUTYPE differences.

3.2 CER9.0P2: ISCCP-D2like-Mrg Pre Processor

3.2.1 Stand Alone Test Procedures

These test procedures should be run on *P6* and/or *x86* platform.

```
source $CERESENV

set BINDIR = $CERESHOME/tisa_grid/CER9.0P2/bin
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.0P2
set TESTDIR = $CERESHOME/tisa_grid/CER9.0P2/test_suites
set RCFDIR = $CERESHOME/tisa_grid/CER9.0P2/rcf
set PCFDIR = $CERESHOME/tisa_grid/CER9.0P2/rcf/pcf
set DataArchive = $CERESHOME/tisa_grid/data

unlimit
```

3.2.1.1 Execution

SGE Testing Instructions:

Note: There are two months for testing MERGE process with/without Aqua data. March 2000 without Aqua and October 2002 with Aqua.

1)

```
cd $RCFDIR
setenv data_year 2000
setenv data_month 03
source env-variable_Terra2000.csh
setenv DATADATE ${data_year}${data_month}
setenv INSTANCE ${SS9_0}_${PS9_0}_${CC9_0}.${DATADATE}
set OUTDIR = $DataArchive/ISCCP-D2likeB/${SS9_0}_${PS9_0}
```

To remove the output from the previous run:

```
$RCFDIR/clean.pl $DATADATE
```

On *x86*:

```
$RCFDIR/CER9.0P2-SGE_Driver.pl -d $DATADATE -platform x86 -clean
```

On *P6*:

```
$RCFDIR/CER9.0P2-SGE_Driver.pl -d $DATADATE -platform p6 -clean
```

After job completion of the pre processor, PGE CER9.0P2, the following files will have been created:

In the **$OUTDIR/$data_year/$data_month** directory:

CER_ISCCP-D2likeB_${INSTANCE}Znnn
CER_ISCCP-D2likeB_${INSTANCE}Znnn.met

where nnn = 004 .. 180

In the **$CERESHOME/tisa_grid/runlogs** directory:

CER9.0P2_LogReport_${INSTANCE}
CER9.0P2_LogStatus_${INSTANCE}
CER9.0P2_LogUser_${INSTANCE}

2)
Terra:

```
cd $RCFDIR
setenv data_year 2002
setenv data_month 10
source env-variable_Terra.csh
setenv DATADATE ${data_year}${data_month}
setenv INSTANCE ${SS9_0}_${PS9_0}_${CC9_0}.${DATADATE}
set OUTDIR = $DataArchive/ISCCP-D2likeB/${SS9_0}_${PS9_0}
```

To remove the output from the previous run:

```
$RCFDIR/clean.pl $DATADATE
```

On *x86*:

```
$RCFDIR/CER9.0P2-SGE_Driver.pl -d $DATADATE -platform x86 -clean
```

On *P6*:

```
$RCFDIR/CER9.0P2-SGE_Driver.pl -d $DATADATE -platform p6 -clean
```

After job completion of the pre processor, PGE CER9.0P2, the following files will have been created:

In the **$OUTDIR/$data_year/$data_month** directory:

CER_ISCCP-D2likeB_${INSTANCE}Znnn
CER_ISCCP-D2likeB_${INSTANCE}Znnn.met

where nnn = 012 .. 180

In the **$CERESHOME/tisa_grid/runlogs** directory:

CER9.0P2_LogReport_${INSTANCE}
CER9.0P2_LogStatus_${INSTANCE}
CER9.0P2_LogUser_${INSTANCE}

Aqua:

cd $RCFDIR
setenv data_year 2002
setenv data_month 10
source env-variable_Aqua.csh
setenv DATADATE ${data_year}${data_month}
setenv INSTANCE ${SS9_0}_${PS9_0}_${CC9_0}.${DATADATE}
set OUTDIR = $DataArchive/ISCCP-D2likeB/${SS9_0}_${PS9_0}

To remove the output from the previous run:

$RCFDIR/clean.pl $DATADATE

On *x86*:
$RCFDIR/CER9.0P2-SGE_Driver.pl -d $DATADATE -platform x86 -clean

On *P6*:
$RCFDIR/CER9.0P2-SGE_Driver.pl -d $DATADATE -platform p6 -clean

After job completion of the pre processor, PGE CER9.0P2, the following files will have been created:

In the **$OUTDIR/$data_year/$data_month** directory:

CER_ISCCP-D2likeB_${INSTANCE}Znnn
CER_ISCCP-D2likeB_${INSTANCE}Znnn.met

where nnn = 012 .. 180

In the **$CERESHOME/tisa_grid/runlogs** directory:

CER9.0P2_LogReport_${INSTANCE}
CER9.0P2_LogStatus_${INSTANCE}
CER9.0P2_LogUser_${INSTANCE}

3.2.1.2 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley TRMM Information System (LaTIS). Successful completion is indicated by an exit code of 0.

0 - Normal Exit
202 - Failure Exit

3.2.1.3 Test Summary

Table 3-2. Run Times for PGE CER9.0P2

	P6 on AMI	***x86***
Terra Test Case	3168.36u 322.90s 1:11:46e	1393u 249.75s 35:24.17e
Aqua Test Case	3168.36u 322.90s 1:11:46e	1393u 249.75s 35:24.17e

3.2.2 Evaluation Procedures

3.2.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.0P2 generated output with expected output. The eval_runtest.pl script will check the following outputs: (3) Logfiles, (4) .met files, and (1) ISCCP-D2likeB Output files.

To compare Terra March 2000 output file:

NOTE: Comparisons cannot be run on the head node (*ab01*). Log onto either a P6 (*ba102*) or an x86 (*aa09*) blade to run the following commands.

```
cd $TESTDIR
source $RCFDIR/env-variable_Terra2000.csh

$TESTDIR/setVariables.csh Test
\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp
```

The following file will have been created:

variables-Test

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

```
$TESTDIR/eval_runtest.pl 2000 03 1
$TESTDIR/eval_runtest.pl 2000 03 2
$TESTDIR/eval_runtest.pl 2000 03 3
$TESTDIR/eval_runtest.pl 2000 03 4
```

To compare Terra October 2002 output file:

NOTE: Comparisons cannot be run on the head node (*ab01*). Log onto either a P6 (*ba102*) or an x86 (*aa09*) blade to run the following commands.

```
cd $TESTDIR
source $RCFDIR/env-variable_Terra.csh

$TESTDIR/setVariables.csh Test
\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp
```

The following file will have been created:

variables-Test

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

$TESTDIR/eval_runtest.pl 2002 10 1
$TESTDIR/eval_runtest.pl 2002 10 2
$TESTDIR/eval_runtest.pl 2002 10 3
$TESTDIR/eval_runtest.pl 2002 10 4

To compare Aqua output file:

NOTE: Comparisons cannot be run on the head node (*ab01*). Log onto either a P6 (*ba102*) or an x86 (*aa09*) blade to run the following commands.

cd $TESTDIR
source $RCFDIR/env-variable_Aqua.csh

$TESTDIR/setVariables.csh Test
\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp

The following file will have been created:

variables-Test

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

$TESTDIR/eval_runtest.pl 2002 10 1
$TESTDIR/eval_runtest.pl 2002 10 2
$TESTDIR/eval_runtest.pl 2002 10 3
$TESTDIR/eval_runtest.pl 2002 10 4

There should be no reported differences.

3.2.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts.

3.3 CER9.0P3: ISCCP-D2like-Mrg Main Processor

3.3.1 Stand Alone Test Procedures

These test procedures should be run on *P6* and/or *x86* platform.

```
source $CERESENV

set BINDIR = $CERESHOME/tisa_grid/CER9.0P3/bin
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.0P3
set TESTDIR = $CERESHOME/tisa_grid/CER9.0P3/test_suites
set RCFDIR = $CERESHOME/tisa_grid/CER9.0P3/rcf
set PCFDIR = $CERESHOME/tisa_grid/CER9.0P3/rcf/pcf
set DataArchive = $CERESHOME/tisa_grid/data

unlimit
```

3.3.1.1 Execution

SGE Testing Instructions:

Note: There are two months for testing MERGE process with/without Aqua data. March 2000 without Aqua and October 2002 with Aqua.

1)

```
cd $RCFDIR
setenv data_year 2000
setenv data_month 03
source env-variable.csh
setenv DATADATE ${data_year}${data_month}
setenv INSTANCE ${SS9_0}_${PS9_0}_${CC9_0}.${DATADATE}
set OUTDIR = $DataArchive/ISCCP-D2like-Mrg/${SS9_0}_${PS9_0}
```

To remove the output from the previous run:

```
$RCFDIR/clean.pl $DATADATE
```

On *x86*:

```
$RCFDIR/CER9.0P3-SGE_Driver.pl -d $DATADATE -platform x86 -clean
```

On *P6*:

```
$RCFDIR/CER9.0P3-SGE_Driver.pl -d $DATADATE -platform p6 –clean
```

After job completion of the main processor, PGE CER9.0P3, the following files will have been created:

In the **$OUTDIR/$data_year/$data_month** directory:
CER_ISCCP-D2like-Mrg_${INSTANCE}
CER_ISCCP-D2like-Mrg_${INSTANCE}.met

In the **$CERESHOME/tisa_grid/runlogs** directory:
CER9.0P3_LogReport_${INSTANCE}
CER9.0P3_LogStatus_${INSTANCE}
CER9.0P3_LogUser_${INSTANCE}

2)

```
cd $RCFDIR
setenv data_year 2002
setenv data_month 10
source env-variable.csh
setenv DATADATE ${data_year}${data_month}
setenv INSTANCE ${SS9_0}_${PS9_0}_${CC9_0}.${DATADATE}
set OUTDIR = $DataArchive/ISCCP-D2like-Mrg/${SS9_0}_${PS9_0}
```

To remove the output from the previous run:

```
$RCFDIR/clean.pl $DATADATE
```

On *x86*:

```
$RCFDIR/CER9.0P3-SGE_Driver.pl -d $DATADATE -platform x86 -clean
```

On *P6*:

```
$RCFDIR/CER9.0P3-SGE_Driver.pl -d $DATADATE -platform p6 -clean
```

After job completion of the main processor, PGE CER9.0P3, the following files will have been created:

In the **$OUTDIR/$data_year/$data_month** directory:
CER_ISCCP-D2like-Mrg_${INSTANCE}
CER_ISCCP-D2like-Mrg_${INSTANCE}.met

In the **$CERESHOME/tisa_grid/runlogs** directory:
CER9.0P3_LogReport_${INSTANCE}
CER9.0P3_LogStatus_${INSTANCE}
CER9.0P3_LogUser_${INSTANCE}

3.3.1.2 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley TRMM Information System (LaTIS). Successful completion is indicated by an exit code of 0.

1 - Normal Exit
202 - Failure Exit

3.3.1.3 Test Summary

Table 3-3. Run Times for PGE CER9.0P3

	P6 on AMI	*x86*
Test Case	01:30:00	00:40:19s

3.3.2 Evaluation Procedures

3.3.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.0P3 generated output with expected output. The eval_runtest.pl script will check the following outputs: (3) Logfiles, (4) .met files, (1) ISCCP-D2like-Mrg Output files, and (5) ISCCP-D2likeMrgQA range report file.

To compare Terra March 2000 output file:

cd $RCFDIR
source env-variable.csh

cd $TESTDIR
$TESTDIR/setVariables.csh Test
\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp

The following file will have been created:

variables-Test

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

$TESTDIR/eval_runtest.pl 2000 03 1
$TESTDIR/eval_runtest.pl 2000 03 2
$TESTDIR/eval_runtest.pl 2000 03 3
$TESTDIR/eval_runtest.pl 2000 03 4
$TESTDIR/eval_runtest.pl 2000 03 5

There should be no reported differences.

To compare Terra October 2002 output file:

cd $RCFDIR
source env-variable.csh

cd $TESTDIR
$TESTDIR/setVariables.csh Test
\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp

The following file will have been created:

variables-Test

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

$TESTDIR/eval_runtest.pl 2002 10 1
$TESTDIR/eval_runtest.pl 2002 10 2
$TESTDIR/eval_runtest.pl 2002 10 3
$TESTDIR/eval_runtest.pl 2002 10 4
$TESTDIR/eval_runtest.pl 2002 10 5

There should be no reported differences.

3.3.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts.

3.4 CER9.0P4: Main Processor - (This PGE is currently not active.)

3.4.1 Stand Alone Test Procedures

These test procedures should be run on *P6* platform. Run all commands for Terra first, ignoring the Aqua: heading. Once finished, start again at the Aqua: heading.

```
source $CERESENV

set BINDIR = $CERESHOME/tisa_grid/CER9.0P4/bin
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.0P4
set RCFDIR = $CERESHOME/tisa_grid/CER9.0P4/rcf
set PCFDIR = $CERESHOME/tisa_grid/CER9.0P4/rcf/pcf
set DataArchive = $CERESHOME/tisa_grid/data

unlimit

cd $RCFDIR

Terra:
    setenv data_sat Terra
    source setUp.csh $data_sat
    setenv DATADATE ${data_year}${data_month}
    setenv INSTANCE Terra-FM1-MODIS_TestSuite_000000.${DATADATE}

Aqua:
    setenv data_sat Aqua
    source setUp.csh $data_sat
    setenv DATADATE ${data_year}${data_month}
    setenv INSTANCE Aqua-FM3-MODIS_TestSuite_000000.${DATADATE}
```

3.4.1.1 PCF Generator

The Main processor references a Process Control File (PCF) for file names, paths, and runtime parameters.

1. Pre-job clean-up.

   If there are any output files from a previous test run, they need to be removed prior to testing again to prevent failure.

   ```
   rm -f $DataArchive/scr/$data_year/$data_month/*$data_sat*
   ```

3.4.1.2 Execution

SGE Testing Instructions:

cd $RCFDIR
$RCFDIR/CER9.0P4-SGE_Driver.pl -date $DATADATE -test Y -satellite $data_sat -clean

After job completion of the main processor, PGE CER9.0P4, the following files will have been created:

The following PCF file will be created:

$PCFDIR/CER9.0P4_PCF_${INSTANCE}

In the **$DataArchive/scr/$data_year/$data_month**
CER_SSFS-Day_${INSTANCE}

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

In the **$CERESHOME/tisa_grid/runlogs** directory:

CER9.0P4_LogReport_${INSTANCE}
CER9.0P4_LogStatus_${INSTANCE}
CER9.0P4_LogUser_${INSTANCE}

3.4.1.3 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley TRMM Information System (LaTIS). Successful completion is indicated by an exit code of 0.

2 - Normal Exit
202 - Failure Exit

3.4.1.4 Test Summary

Table 3-4. Run Times for PGE CER9.0P4

	P6 on AMI	***x86***
Test Case	3 min 45 sec	n/a

3.4.2 Evaluation Procedures

3.4.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.0P4 generated output with expected output.

To compare output file:

```
cmp $EXPDIR/CER_SSFS-Day_${INSTANCE}01
    $DataArchive/scr/$data_year/$data_month/CER_SSFS-Day_${INSTANCE}01
```

There should be no reported differences.

3.4.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts.

3.5 CER9.0P5: FluxByCloudTyp Main Processor – (This PGE is currently not active)

3.5.1 Stand Alone Test Procedures

These test procedures should be run on *P6* platform.

```
source $CERESENV

set BINDIR = $CERESHOME/tisa_grid/CER9.0P5/bin
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.0P5
set RCFDIR = $CERESHOME/tisa_grid/CER9.0P5/rcf
set PCFDIR = $CERESHOME/tisa_grid/CER9.0P5/rcf/pcf
set DataArchive = $CERESHOME/tisa_grid/data

unlimit

cd $RCFDIR

Terra:
    setenv data_sat Terra
    source setUp.csh $data_sat
    setenv DATADATE ${data_year}${data_month}
    setenv COEFF_INSTANCE Terra-FM1-MODIS_TestSuite.${DATADATE}
    setenv INSTANCE Terra-FM1-MODIS_TestSuite_000000.${DATADATE}

Aqua:
    setenv data_sat Aqua
    source setUp.csh $data_sat
    setenv DATADATE ${data_year}${data_month}
    setenv COEFF_INSTANCE Aqua-FM3-MODIS_TestSuite.${DATADATE}
    setenv INSTANCE Aqua-FM3-MODIS_TestSuite_000000.${DATADATE}
```

3.5.1.1 PCF Generator

The Main processor references a Process Control File (PCF) for file names, paths, and runtime parameters.

1. Pre-job clean-up.

   If there are any output files from a previous test run, they need to be removed prior to testing again to prevent failure.

```
rm -f $DataArchive/scr2/$data_year/$data_month/*$data_sat*
rm -f $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/*$data_sat*
rm -f $DataArchive/flx-by-cld/$data_year/$data_month/*$data_sat*
```

3.5.1.2 Execution

SGE Testing Instructions:

cd $RCFDIR
$RCFDIR/CER9.0P5-SGE_Driver.pl -date $DATADATE -test Y -satellite $data_sat -clean

After job completion of the main processor, PGE CER9.0P5, the following files will have been created:

The following PCF file will be created:

$PCFDIR/CER9.0P5_PCF_${INSTANCE}

In the **$DataArchive/flx-by-cld/$data_year/$data_month**
CER_FluxByCloudTyp_${INSTANCE}.nc
CER_FluxByCloudTyp_${INSTANCE}.nc.met

Temporary files in the **$DataArchive/scr2/$data_year/$data_month**
CER_FluxByCloudTemp_${INSTANCE}.bin
CER_SFCD_${INSTANCE}

In the **$DataArchive/NB2BB_coeff_dir/$data_year/$data_month**

CER_FlxByCld-lwwn-lnd-day-cld_$COEFF_INSTANCE
CER_FlxByCld-lwwn-lnd-day-clr_$COEFF_INSTANCE
CER_FlxByCld-lwwn-lnd-nit-cld_$COEFF_INSTANCE
CER_FlxByCld-lwwn-lnd-nit-clr_$COEFF_INSTANCE
CER_FlxByCld-lwwn-ocn-day-cld_$COEFF_INSTANCE
CER_FlxByCld-lwwn-ocn-day-clr_$COEFF_INSTANCE
CER_FlxByCld-lwwn-ocn-nit-cld_$COEFF_INSTANCE
CER_FlxByCld-lwwn-ocn-nit-clr_$COEFF_INSTANCE
CER_FlxByCld-sw-lnd-cld_$COEFF_INSTANCE
CER_FlxByCld-sw-lnd-clr_$COEFF_INSTANCE
CER_FlxByCld-sw-ocn-cld_$COEFF_INSTANCE
CER_FlxByCld-sw-ocn-clr_$COEFF_INSTANCE

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

In the **$CERESHOME/tisa_grid/runlogs** directory:

CER9.0P5_LogReport_${INSTANCE}
CER9.0P5_LogStatus_${INSTANCE}
CER9.0P5_LogUser_${INSTANCE}

3.5.1.3 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley TRMM Information System (LaTIS). Successful completion is indicated by an exit code of 0.

3 - Normal Exit
202 - Failure Exit

3.5.1.4 Test Summary

Table 3-5. Run Times for PGE CER9.0P5

	P6 on AMI	***x86***
Test Case	5 min	n/a

3.5.2 Evaluation Procedures

3.5.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.0P5 generated output with expected output.

To compare output file:

cmp $EXPDIR/CER_FluxByCloudTyp_${INSTANCE}01.nc $DataArchive/flx-by-cld/$data_year/$data_month/CER_FluxByCloudTyp_${INSTANCE}01.nc

cmp $EXPDIR/CER_FlxByCld-lwwn-lnd-day-cld_$COEFF_INSTANCE $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/CER_FlxByCld-lwwn-lnd-day-cld_$COEFF_INSTANCE

cmp $EXPDIR/CER_FlxByCld-lwwn-lnd-day-clr_$COEFF_INSTANCE $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/CER_FlxByCld-lwwn-lnd-day-clr_$COEFF_INSTANCE

cmp $EXPDIR/CER_FlxByCld-lwwn-lnd-nit-cld_$COEFF_INSTANCE $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/CER_FlxByCld-lwwn-lnd-nit-cld_$COEFF_INSTANCE

cmp $EXPDIR/CER_FlxByCld-lwwn-lnd-nit-clr_$COEFF_INSTANCE $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/CER_FlxByCld-lwwn-lnd-nit-clr_$COEFF_INSTANCE

cmp $EXPDIR/CER_FlxByCld-lwwn-ocn-day-cld_$COEFF_INSTANCE $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/CER_FlxByCld-lwwn-ocn-day-cld_$COEFF_INSTANCE

cmp $EXPDIR/CER_FlxByCld-lwwn-ocn-day-clr_$COEFF_INSTANCE $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/CER_FlxByCld-lwwn-ocn-day-clr_$COEFF_INSTANCE

cmp $EXPDIR/CER_FlxByCld-lwwn-ocn-nit-cld_$COEFF_INSTANCE $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/CER_FlxByCld-lwwn-ocn-nit-cld_$COEFF_INSTANCE

cmp $EXPDIR/CER_FlxByCld-lwwn-ocn-nit-clr_$COEFF_INSTANCE $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/CER_FlxByCld-lwwn-ocn-nit-clr_$COEFF_INSTANCE

cmp $EXPDIR/CER_FlxByCld-sw-lnd-cld_$COEFF_INSTANCE $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/CER_FlxByCld-sw-lnd-cld_$COEFF_INSTANCE

cmp $EXPDIR/CER_FlxByCld-sw-lnd-clr_$COEFF_INSTANCE $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/CER_FlxByCld-sw-lnd-clr_$COEFF_INSTANCE

cmp $EXPDIR/CER_FlxByCld-sw-ocn-cld_$COEFF_INSTANCE $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/CER_FlxByCld-sw-ocn-cld_$COEFF_INSTANCE

cmp $EXPDIR/CER_FlxByCld-sw-ocn-clr_$COEFF_INSTANCE $DataArchive/NB2BB_coeff_dir/$data_year/$data_month/CER_FlxByCld-sw-ocn-clr_$COEFF_INSTANCE

There should be no reported differences.

3.5.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts.

3.6 CER9.1P1: Post-MOA Processor

3.6.1 Stand Alone Test Procedures

Before testing PGE CER9.1P1, source the appropriate environment scripts and then set some additional general environment variables.

NOTE: The data file names have been updated on 03/07/05 to make it consistent with the SCCR 326 delivery of this PGE.

source $CERESENV (P6 version)

set RCFDIR = $CERESHOME/tisa_grid/CER9.1P1/rcf
set PCFDIR = $CERESHOME/tisa_grid/CER9.1P1/rcf/pcf
set TSTDIR = $CERESHOME/tisa_grid/CER9.1P1/test_suites
set BINDIR = $CERESHOME/tisa_grid/CER9.1P1/bin
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.1P1
set DataArchive = $CERESHOME/tisa_grid/data
unlimit

3.6.1.1 Execution

cd $RCFDIR
set data_year = 2012
set data_month = 01
set DATADATE = $data_year$data_month
source env-variable.csh
set plfm = p6
$RCFDIR/clean.pl $DATADATE
$RCFDIR/CER9.1P1-SGE_Driver.pl -p $plfm -date $DATADATE

After job completion of the Post-MOA processor, PGE CER9.1P1, the following files will have been created:

In the **$CERESHOME/tisa_grid/data/PMOA/CERES_DAO-G5-CERES/2012/01** directory:

CER_PMOA_CERES_DAO-G5-CERES_017025.201201F1
CER_PMOA_CERES_DAO-G5-CERES_017025.201201F1.met
CER_PMOA_CERES_DAO-G5-CERES_017025.201201F2
CER_PMOA_CERES_DAO-G5-CERES_017025.201201F2.met
CER_PMOA_CERES_DAO-G5-CERES_017025.201201F3
CER_PMOA_CERES_DAO-G5-CERES_017025.201201F3.met
CER_PMOA_CERES_DAO-G5-CERES_017025.201201F4
CER_PMOA_CERES_DAO-G5-CERES_017025.201201F4.met
$TSTDIR/setVariables.csh Test

The following file will have been created:

$variables-Test

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

In the **$CERESHOME/tisa_grid/runlogs** directory:
CER9.1P1_LogUser_CERES_DAO-G5-CERES_017025.201201
CER9.1P1_LogStatus_CERES_DAO-G5-CERES_017025.201201
CER9.1P1_LogReport_CERES_DAO-G5-CERES_017025.201201

3.6.1.2 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley TRMM Information System (LaTIS). Successful completion is indicated by an exit code of 0.

3.6.1.3 Test Summary

The UNIX time utility yielded the following results when the test was run on *thunder*:
960.1u 62.2s 17:07 0+0k 360880k 2007+4io 46pf+0w

Table 3-6. Run Times for PGE CER9.1P1

	P6 on AMI
Test Case	~2 to 3 hours

3.6.2 Evaluation Procedures

3.6.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.1P1 generated output with expected output. The eval_runtest.csh script will check the following outputs: (3) Logfiles, (4) .met files, and (1) PMOA Output files.

cd $CERESHOME/tisa_grid/CER9.1P1/test_suites
./eval_runtest.pl 3
./eval_runtest.pl 4
./eval_runtest.pl 1

There should be no reported differences.

3.6.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts.

3.7 CER9.1P2: Post-MOA Processor – Edition4

3.7.1 Stand Alone Test Procedures

Before testing PGE CER9.1P2, source the appropriate environment scripts and then set some additional general environment variables.

source $CERESENV (x86 version)

set RCFDIR = $CERESHOME/tisa_grid/CER9.1P2/rcf
set PCFDIR = $CERESHOME/tisa_grid/CER9.1P2/rcf/pcf
set TESTDIR = $CERESHOME/tisa_grid/CER9.1P2/test_suites
set BINDIR = $CERESHOME/tisa_grid/CER9.1P2/bin
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.1P2
set DataArchive = $CERESHOME/tisa_grid/data
unlimit

3.7.1.1 Execution

cd $RCFDIR
set data_year = 2013
set data_month = 04
set DATADATE = $data_year$data_month
source $TESTDIR/env-variable.csh
$RCFDIR/CER9.1P2-SGE_Driver.pl -date $DATADATE -clean -platform x86

After job completion of the Post-MOA processor, PGE CER9.1P2, the following files will have been created:

In the **$CERESHOME/tisa_grid/data/PMOA/CERES_GMAO-G541-Ed4/2013/04** directory:

CER_PMOA_CERES_GMAO-G541-Ed4_400400.201304F1
CER_PMOA_CERES_GMAO-G541-Ed4_400400.201304F1.met
CER_PMOA_CERES_GMAO-G541-Ed4_400400.201304F2
CER_PMOA_CERES_GMAO-G541-Ed4_400400.201304F2.met
CER_PMOA_CERES_GMAO-G541-Ed4_400400.201304F3
CER_PMOA_CERES_GMAO-G541-Ed4_400400.201304F3.met
CER_PMOA_CERES_GMAO-G541-Ed4_400400.201304F4
CER_PMOA_CERES_GMAO-G541-Ed4_400400.201304F4.met

cd $TESTDIR
$TESTDIR/setVariables.csh Test

The following file will have been created:

variables-Test
\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

In the **$CERESHOME/tisa_grid/runlogs** directory:

CER9.1P2_LogUser_CERES_GMAO-G541-Ed4_400400.201304
CER9.1P2_LogStatus_CERES_GMAO-G541-Ed4_400400.201304
CER9.1P2_LogReport_CERES_GMAO-G541-Ed4_400400.201304

3.7.1.2 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley TRMM Information System (LaTIS). Successful completion is indicated by an exit code of 0.

3.7.1.3 Test Summary

The UNIX time utility yielded the following results when the test was run on *x86*:
836.83user 179.20system 27:11.53elapsed 62%CPU (0avgtext+0avgdata 1543968maxresident)k

Table 3-7. Run Times for PGE CER9.1P2

	x86 on AMI
Test Case	~30 minutes

3.7.2 Evaluation Procedures

3.7.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.1P2 generated output with expected output. The eval_runtest.csh script will check the following outputs: (3) Logfiles, (4) .met files, (1) PMOA Output files, (2) PCF file.

```
cd $TESTDIR

./eval_runtest.pl 1
./eval_runtest.pl 2
./eval_runtest.pl 3
./eval_runtest.pl 4
```

There should be no reported differences except sge_log file name differences in PCF and HOST differences in met files.

3.7.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts.

3.8 CER9.2P2: SFC-HR Processor (Edition 3)

3.8.1 Stand Alone Test Procedures

Before testing PGE CER9.2P2, source the appropriate environment scripts and then set some additional general environment variables.

```
source $CERESENV (P6 version)

set BINDIR = $CERESHOME/tisa_grid/CER9.2P2/bin
set RCFDIR = $CERESHOME/tisa_grid/CER9.2P2/rcf
set TESTDIR = $CERESHOME/tisa_grid/CER9.2P2/test_suites
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.2P2
set PCFDIR = $CERESHOME/tisa_grid/CER9.2P2/rcf/pcf
set DataArchive = $CERESHOME/tisa_grid/data

unlimit
```

3.8.1.1 Execution

```
Terra:
    cd $RCFDIR
    source $RCFDIR/env-variable_Terra.csh
    setenv INSTANCE_T ${SS9}_${PS9}_${CC9}
    set OUTDIR = $DataArchive/SFC-HR/${SS9}_${PS9}

    setenv data_year 2004
    setenv data_month 07
    setenv data_month6 06
    setenv data_month7 07
    setenv data_month8 08
    setenv data_day1 01
    setenv data_day30 30
    setenv DATADATE6 $data_year$data_month6$data_day30
    setenv DATADATE7 $data_year$data_month7$data_day1
    setenv DATADATE8 $data_year$data_month8$data_day1

    setenv hour13 13
    setenv hour23 23

    setenv hour0 00
    setenv hour1 01
    setenv hour2 02
    setenv hour3 03
```

```
setenv hour12 12
setenv plfm p6

$RCFDIR/clean.pl $DATADATE6$hour13
$RCFDIR/CER9.2P2-SGE_Driver.pl -p $plfm -date $DATADATE6 -hour $hour13
$RCFDIR/clean.pl $DATADATE6$hour23
$RCFDIR/CER9.2P2-SGE_Driver.pl -p $plfm -date $DATADATE6 -hour $hour23
$RCFDIR/clean.pl $DATADATE7$hour0
$RCFDIR/CER9.2P2-SGE_Driver.pl -p $plfm -date $DATADATE7 -hour $hour0
$RCFDIR/clean.pl $DATADATE7$hour1
$RCFDIR/CER9.2P2-SGE_Driver.pl -p $plfm -date $DATADATE7 -hour $hour1
$RCFDIR/clean.pl $DATADATE7$hour2
$RCFDIR/CER9.2P2-SGE_Driver.pl -p $plfm -date $DATADATE7 -hour $hour2
$RCFDIR/clean.pl $DATADATE7$hour3
$RCFDIR/CER9.2P2-SGE_Driver.pl -p $plfm -date $DATADATE7 -hour $hour3

$RCFDIR/clean.pl $DATADATE8$hour0
$RCFDIR/CER9.2P2-SGE_Driver.pl -p $plfm -date $DATADATE8 -hour $hour0
$RCFDIR/clean.pl $DATADATE8$hour12
$RCFDIR/CER9.2P2-SGE_Driver.pl -p $plfm -date $DATADATE8 -hour $hour12
```

After job completion of the pre processor, PGE CER9.2P2, the following files will have been created:

In the **$OUTDIR/$data_year/$data_month7** directory:

CER_SFC-HR_${INSTANCE_T}.$DATADATE7$hour0
CER_SFC-HR_${INSTANCE_T}.$DATADATE7$hour0.met
CER_SFC-HR_${INSTANCE_T}.$DATADATE7$hour1
CER_SFC-HR_${INSTANCE_T}.$DATADATE7$hour1.met
CER_SFC-HR_${INSTANCE_T}.$DATADATE7$hour2
CER_SFC-HR_${INSTANCE_T}.$DATADATE7$hour2.met
CER_SFC-HR_${INSTANCE_T}.$DATADATE7$hour3
CER_SFC-HR_${INSTANCE_T}.$DATADATE7$hour3.met

In the **$OUTDIR/$data_year/$data_month6** directory:

CER_SFC-HR_${INSTANCE_T}.$DATADATE6$hour13
CER_SFC-HR_${INSTANCE_T}.$DATADATE6$hour13.met
CER_SFC-HR_${INSTANCE_T}.$DATADATE6$hour23
CER_SFC-HR_${INSTANCE_T}.$DATADATE6$hour23.met

In the **$OUTDIR/$data_year/$data_month8** directory:

CER_SFC-HR_${INSTANCE_T}.$DATADATE8$hour0
CER_SFC-HR_${INSTANCE_T}.$DATADATE8$hour0.met
CER_SFC-HR_${INSTANCE_T}.$DATADATE8$hour12
CER_SFC-HR_${INSTANCE_T}.$DATADATE8$hour12.met

In the **$CERESHOME/tisa_grid/runlogs** directory:

CER9.2P2_LogReport_${INSTANCE_T}.${DATADATE6}${hour13}
CER9.2P2_LogStatus_${INSTANCE_T}.${DATADATE6}${hour13}
CER9.2P2_LogUser_${INSTANCE_T}.${DATADATE6}${hour13}

CER9.2P2_LogReport_${INSTANCE_T}.${DATADATE6}${hour23}
CER9.2P2_LogStatus_${INSTANCE_T}.${DATADATE6}${hour23}
CER9.2P2_LogUser_${INSTANCE_T}.${DATADATE6}${hour23}

CER9.2P2_LogReport_${INSTANCE_T}.${DATADATE7}${hour0}
CER9.2P2_LogStatus_${INSTANCE_T}.${DATADATE7}${hour0}
CER9.2P2_LogUser_${INSTANCE_T}.${DATADATE7}${hour0}

CER9.2P2_LogReport_${INSTANCE_T}.${DATADATE7}$hour1}
CER9.2P2_LogStatus_${INSTANCE_T}.${DATADATE7}$hour1}
CER9.2P2_LogUser_${INSTANCE_T}.${DATADATE7}$hour1}

CER9.2P2_LogReport_${INSTANCE_T}.${DATADATE7}${hour2}
CER9.2P2_LogStatus_${INSTANCE_T}.${DATADATE7}${hour2}
CER9.2P2_LogUser_${INSTANCE_T}.${DATADATE7}${hour2}

CER9.2P2_LogReport_${INSTANCE_T}.${DATADATE7}${hour3}
CER9.2P2_LogStatus_${INSTANCE_T}.${DATADATE7}${hour3}
CER9.2P2_LogUser_${INSTANCE_T}.${DATADATE7}${hour3}

CER9.2P2_LogReport_${INSTANCE_T}.${DATADATE8}${hour0}
CER9.2P2_LogStatus_${INSTANCE_T}.${DATADATE8}${hour0}
CER9.2P2_LogUser_${INSTANCE_T}.${DATADATE8}${hour0}

CER9.2P2_LogReport_${INSTANCE_T}.${DATADATE8}${hour12}
CER9.2P2_LogStatus_${INSTANCE_T}.${DATADATE8}${hour12}
CER9.2P2_LogUser_${INSTANCE_T}.${DATADATE8}${hour12}

Aqua:

```
cd $RCFDIR
source $RCFDIR/env-variable_Aqua.csh
setenv INSTANCE_A ${SS9}_${PS9}_${CC9}
set OUTDIR = $DataArchive/SFC-HR/${SS9}_${PS9}
set MOVDIR = $DataArchive/MOVLP/${SS9}_${PS9}

setenv data_year 2006
setenv data_month 07
setenv data_day 15
setenv DATADATE $data_year$data_month$data_day
```

setenv hour0 00
setenv hour1 01
setenv hour12 12
setenv hour13 13
setenv hour14 14
setenv plfm p6

clean.pl $DATADATE$hour0
CER9.2P2-SGE_Driver.pl -date $DATADATE -hour $hour0
clean.pl $DATADATE$hour1
CER9.2P2-SGE_Driver.pl -date $DATADATE -hour $hour1
clean.pl $DATADATE$hour12
CER9.2P2-SGE_Driver.pl -date $DATADATE -hour $hour12
clean.pl $DATADATE$hour13
CER9.2P2-SGE_Driver.pl -date $DATADATE -hour $hour13
clean.pl $DATADATE$hour14
CER9.2P2-SGE_Driver.pl -date $DATADATE -hour $hour14

After job completion of the pre processor, PGE CER9.2P2, the following files will have been created:

In the **$OUTDIR/$data_year/$data_month** directory:

CER_SFC-HR_${INSTANCE_A}.${DATADATE}${hour0}
CER_SFC-HR_${INSTANCE_A}.${DATADATE}${hour0}.met
CER_SFC-HR_${INSTANCE_A}.${DATADATE}${hour1}
CER_SFC-HR_${INSTANCE_A}.${DATADATE}${hour1}.met
CER_SFC-HR_${INSTANCE_A}.${DATADATE}${hour12}
CER_SFC-HR_${INSTANCE_A}.${DATADATE}${hour12}.met
CER_SFC-HR_${INSTANCE_A}.${DATADATE}${hour13}
CER_SFC-HR_${INSTANCE_A}.${DATADATE}${hour13}.met
CER_SFC-HR_${INSTANCE_A}.${DATADATE}${hour14}
CER_SFC-HR_${INSTANCE_A}.${DATADATE}${hour14}.met

In the **$CERESHOME/tisa_grid/runlogs** directory:

CER9.2P2_LogReport_${INSTANCE_A}.${DATADATE}${hour0}
CER9.2P2_LogStatus_${INSTANCE_A}.${DATADATE}${hour0}
CER9.2P2_LogUser_${INSTANCE_A}.${DATADATE}${hour0}

CER9.2P2_LogReport_${INSTANCE_A}.${DATADATE}${hour1}
CER9.2P2_LogStatus_${INSTANCE_A}.${DATADATE}${hour1}
CER9.2P2_LogUser_${INSTANCE_A}.${DATADATE}${hour1}

CER9.2P2_LogReport_${INSTANCE_A}.${DATADATE}${hour12}
CER9.2P2_LogStatus_${INSTANCE_A}.${DATADATE}${hour12}
CER9.2P2_LogUser_${INSTANCE_A}.${DATADATE}${hour12}
CER9.2P2_LogReport_${INSTANCE_A}.${DATADATE}${hour13}

CER9.2P2_LogStatus_${INSTANCE_A}.${DATADATE}${hour13}
CER9.2P2_LogUser_${INSTANCE_A}.${DATADATE}${hour13}

CER9.2P2_LogReport_${INSTANCE_A}.${DATADATE}${hour14}
CER9.2P2_LogStatus_${INSTANCE_A}.${DATADATE}${hour14}
CER9.2P2_LogUser_${INSTANCE_A}.${DATADATE}${hour14}

3.8.1.2 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley Terra Information System (LaTIS). Successful completion is indicated by an exit code of 0.

3.8.1.3 Test Summary

The UNIX time utility yielded the following results for ONE of the CER9.2P2 jobs, when the test was run on *P6*:

Table 3-8. Run Times for PGE CER9.2P2

	P6 on AMI
Terra Test Case	0:39.29
Aqua Test Case	1:04.82

3.8.2 Evaluation Procedures

3.8.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.2P2 generated output with expected output. The eval_runtest.csh script will check the following outputs: (1) SFC-HR files (3) QA files, (4) Logfiles, (5) .met files

NOTE: QA files are optional. They may not get generated for some runs.
SFC-HR comparisons will create a *.dmp file for each corresponding SFC-HR file. The *dmp file will have the header information and the differences if there are found any.

```
cd $TESTDIR
setVariables.csh Test
\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp
```

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

Terra

```
$TESTDIR/eval_runtest.pl 1
$TESTDIR/eval_runtest.pl 3
$TESTDIR/eval_runtest.pl 4
$TESTDIR/eval_runtest.pl 5
```

Aqua

$TESTDIR/eval_runtest.pl 1
$TESTDIR/eval_runtest.pl 3
$TESTDIR/eval_runtest.pl 4
$TESTDIR/eval_runtest.pl 5

There should be no reported differences.

3.8.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts.

3.9 CER9.3P2: SFCB Postprocessor (Edition 3)

3.9.1 Stand Alone Test Procedures

Before testing PGE CER9.3P2, source the appropriate environment scripts and then set some additional general environment variables.

```
source $CERESENV (P6 version)

set BINDIR = $CERESHOME/tisa_grid/CER9.3P2/bin
set RCFDIR = $CERESHOME/tisa_grid/CER9.3P2/rcf
set TESTDIR = $CERESHOME/tisa_grid/CER9.3P2/test_suites
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.3P2
set PCFDIR = $CERESHOME/tisa_grid/CER9.3P2/rcf/pcf
set DataArchive = $CERESHOME/tisa_grid/data

unlimit
```

NOTE: PGE CER9.3P2 uses the output produced from testing PGE CER9.2P2.

3.9.1.1 Execution

Terra:

```
cd $RCFDIR
source env-variable_Terra.csh
set OUTDIR_T = $DataArchive/SFCB/${SS9}_${PS9_3}

setenv data_year 2004
setenv data_month 07
setenv DATADATE_T ${data_year}${data_month}
setenv INSTANCE_T ${SS9}_${PS9_3}_${CC9_3}.${DATADATE_T}

setenv plfm p6

$RCFDIR/clean.pl $DATADATE_T
$RCFDIR/CER9.3P2-SGE_Driver.pl -p $plfm -date $DATADATE_T
```

NOTE: There are less than required input hourly files available for testing.

To test PGE with existing input files use force command as follows**.**

```
$RCFDIR/clean.pl $DATADATE_T
$RCFDIR/CER9.3P2-SGE_Driver.pl -p $plfm -date $DATADATE_T -force
```

After job completion of the post processor, PGE CER9.3P2, the following files will have been created:

In the **$OUTDIR_T/$data_year/$data_month** directory:

CER_SFCB_Terra-MODIS_TestSuite_000000.200407Znnn
CER_SFCB_Terra-MODIS_TestSuite_000000.200407Znnn.met

where nnn = 001 .. 180.

In the **$CERESHOME/tisa_grid/runlogs** directory:

CER9.3P2_LogReport_Terra-MODIS_TestSuite_000000.200407
CER9.3P2_LogStatus_Terra-MODIS_TestSuite_000000.200407
CER9.3P2_LogUser_Terra-MODIS_TestSuite_000000.200407

Aqua:

```
cd $RCFDIR
source $RCFDIR/env-variable_Aqua.csh
set OUTDIR_A = $DataArchive/SFCB/${SS9}_${PS9_3}

setenv data_year 2006
setenv data_month 07
setenv DATADATE_A ${data_year}${data_month}
setenv INSTANCE_A ${SS9}_${PS9_3}_${CC9_3}.${DATADATE_A}

setenv plfm p6

$RCFDIR/clean.pl $DATADATE_A
$RCFDIR/CER9.3P2-SGE_Driver.pl -p $plfm -date $DATADATE_A
```

NOTE: If job exits with Exit code = 203 and with error message "Please stage missing file(s) if available"

Use force option to process job with less than expected inputs.

```
$RCFDIR/clean.pl $DATADATE_A
$RCFDIR/CER9.3P2-SGE_Driver.pl -p $plfm -date $DATADATE_A -force
```

After job completion of the post processor, PGE CER9.3P2, the following files will have been created:

In the **$OUTDIR_A/$data_year/$data_month** directory:

CER_SFCB_Aqua-MODIS_TestSuite_000000.200607Znnn
CER_SFCB_Aqua-MODIS_TestSuite_000000.200607Znnn.met

where nnn = 001 .. 180.

In the **$CERESHOME/tisa_grid/runlogs** directory:

CER9.3P2_LogReport_Aqua-MODIS_TestSuite_000000.200607
CER9.3P2_LogStatus_Aqua-MODIS_TestSuite_000000.200607
CER9.3P2_LogUser_Aqua-MODIS_TestSuite_000000.200607

3.9.1.2 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley Terra Information System (LaTIS). Successful completion is indicated by an exit code of 0.

3.9.1.3 Test Summary

The UNIX time utility yielded the following results for ONE of the CER9.3P2 jobs, when the test was run on *P6*:

Table 3-9. Run Times for PGE CER9.3P2

	AMI-P6
Terra Test Case	0:07.48
Aqua Test Case	0:10.02

3.9.2 Evaluation Procedures

3.9.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.3P2 generated output with expected output. The eval_runtest.csh script will check the following outputs: (1) SFCB Binary Output files, (3) QA files, (4) Logfiles, and (5) .met files.

```
cd $TESTDIR
setVariables.csh Test
\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp
```

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

Terra

```
source $RCFDIR/env-variable_Terra.csh

$TESTDIR/eval_runtest.pl 1
$TESTDIR/eval_runtest.pl 3
$TESTDIR/eval_runtest.pl 4
$TESTDIR/eval_runtest.pl 5
```

Aqua

```
source $RCFDIR/env-variable_Aqua.csh

$TESTDIR/eval_runtest.pl 1
$TESTDIR/eval_runtest.pl 3
$TESTDIR/eval_runtest.pl 4
$TESTDIR/eval_runtest.pl 5
```

There should be no reported differences.

3.9.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts.

3.10 CER9.4P2: SFC HDF Processor (Edition 3)

3.10.1 Stand Alone Test Procedures

Before testing PGE CER9.4P2, source the appropriate environment scripts and copy the test data to the appropriate directory.

```
source $CERESENV (P6 version)

set BINDIR = $CERESHOME/tisa_grid/CER9.4P2/bin
set RCFDIR = $CERESHOME/tisa_grid/CER9.4P2/rcf
set TESTDIR = $CERESHOME/tisa_grid/CER9.4P2/test_suites
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.4P2
set PCFDIR = $CERESHOME/tisa_grid/CER9.4P2/rcf/pcf
set DataArchive = $CERESHOME/tisa_grid/data

unlimit
```

NOTE: PGE CER9.4P2 uses the output produced from testing PGE CER9.3P2.

3.10.1.1 Execution

Terra:

```
cd $RCFDIR
source $RCFDIR/env-variable_Terra.csh
set OUTDIR = $DataArchive/SFC/${SS9}_${PS9}

setenv data_year 2004
setenv data_month 07
setenv DATADATE_T ${data_year}${data_month}
setenv INSTANCE_T ${SS9}_${PS9}_${CC9_4}.${DATADATE_T}
setenv plfm p6

$RCFDIR/clean.pl $DATADATE_T
$RCFDIR/CER9.4P2-SGE_Driver.pl -p $plfm -date $DATADATE_T
```

After job completion of the post processor, PGE CER9.4P2, the following files will have been created:

In the **$OUTDIR/$data_year/$data_month** directory:

CER_SFC_Terra-MODIS_TestSuite_000000.200407Znn
CER_SFC_Terra-MODIS_TestSuite_000000.200407Znn.met

where nn = 01 .. 36

In the **$CERESHOME/tisa_grid/runlogs** directory:

CER9.4P2_LogReport_Terra-MODIS_TestSuite_000000.200407
CER9.4P2_LogStatus_Terra-MODIS_TestSuite_000000.200407
CER9.4P2_LogUser_Terra-MODIS_TestSuite_000000.200407

Aqua:

```
cd $RCFDIR
source $RCFDIR/env-variable_Aqua.csh
set OUTDIR = $DataArchive/SFC/${SS9}_${PS9}

setenv data_year 2006
setenv data_month 07
setenv DATADATE_A ${data_year}${data_month}
setenv INSTANCE_A ${SS9}_${PS9}_${CC9_4}.${DATADATE_A}

setenv plfm p6

$RCFDIR/clean.pl $DATADATE_A
$RCFDIR/CER9.4P2-SGE_Driver.pl -p $plfm -date $DATADATE_A
```

After job completion of the post processor, PGE CER9.4P2, the following files will have been created:

In the **$OUTDIR/$data_year/$data_month** directory:

CER_SFC_Aqua-MODIS_TestSuite_000000.200607Znn
CER_SFC_Aqua-MODIS_TestSuite_000000.200607Znn.met

where nn = 01 .. 36

In the **$CERESHOME/tisa_grid/runlogs** directory:

CER9.4P2_LogReport_Aqua-MODIS_TestSuite_000000.200607
CER9.4P2_LogStatus_Aqua-MODIS_TestSuite_000000.200607
CER9.4P2_LogUser_Aqua-MODIS_TestSuite_000000.200607

3.10.1.2 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley Terra Information System (LaTIS). Successful completion is indicated by an exit code of 0.

3.10.1.3 Test Summary

The UNIX time utility yielded the following results for ONE of the CER9.4P2 jobs, when the test was run on *P4*:

Table 3-10. Run Times for CER9.4P2

	magneto
Terra 2004 Test Case	0:41.12
Aqua 2006 Test Case	0:49.08

3.10.2 Evaluation Procedures

3.10.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.4P2 generated output with expected output. The eval_runtest.csh script will check the following outputs: (1) SFC HDF Output files, (3) Logfiles, and (4) .met files.

```
cd $TESTDIR
setVariables.csh Test
\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp
```

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

```
$TESTDIR/eval_runtest.pl 1
$TESTDIR/eval_runtest.pl 3
$TESTDIR/eval_runtest.pl 4
```

3.10.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts.

3.11 CER9.2P3: SSF1deg-HR Processor (Edition 4)

3.11.1 Stand Alone Test Procedures

Before testing PGE CER9.2P3, source the appropriate environment scripts and then set some additional general environment variables.

```
source $CERESENV (P6/X86 version)

set BINDIR = $CERESHOME/tisa_grid/CER9.2P3/bin
set RCFDIR = $CERESHOME/tisa_grid/CER9.2P3/rcf
set TESTDIR = $CERESHOME/tisa_grid/CER9.2P3/test_suites
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.2P3
set PCFDIR = $CERESHOME/tisa_grid/CER9.2P3/rcf/pcf
set DataArchive = $CERESHOME/tisa_grid/data

unlimit
```

3.11.1.1 Execution

Terra

```
cd $TESTDIR
source env-variable_Terra.csh
```

Aqua

```
cd $TESTDIR
source env-variable_Aqua.csh

cd $RCFDIR

setenv data_year 2004
setenv data_month 07
setenv INSTANCE ${SS9}_${PS9}_${CC9}
set OUTDIR = $DataArchive/SSF1deg-HR/${SS9}_${PS9}
```

On *x86*:

```
cd $RCFDIR
CER9.2P3-SGE_Driver.pl -start 20040701 -end 20040731 -hour 12 -clean -platform
    x86
CER9.2P3-SGE_Driver.pl -date 20040706 -start_hour 0 -end_hour 0 -clean -
    platform x86
```

On *P6*:

cd $RCFDIR
CER9.2P3-SGE_Driver.pl -start 20040701 -end 20040731 -hour 12 -clean -platform p6
CER9.2P3-SGE_Driver.pl -date 20040706 -start_hour 0 -end_hour 0 -clean -platform p6

NPP

cd $TESTDIR
source env-variable_NPP.csh

cd $RCFDIR

setenv data_year 2013
setenv data_month 04
setenv INSTANCE ${SS9}_${PS9}_${CC9}
set OUTDIR = $DataArchive/SSF1deg-HR/${SS9}_${PS9}

On *x86*:

cd $RCFDIR
CER9.2P3-SGE_Driver.pl -start 20130401 -end 20130430 -hour 12 -clean -platform x86
CER9.2P3-SGE_Driver.pl -date 20130406 -start_hour 0 -end_hour 0 -clean -platform x86

On *P6*:

cd $RCFDIR
CER9.2P3-SGE_Driver.pl -start 20130401 -end 20130430 -hour 12 -clean -platform p6
CER9.2P3-SGE_Driver.pl -date 20130406 -start_hour 0 -end_hour 0 -clean -platform p6

After job completion of the pre processor, PGE CER9.2P3, the following files will have been created:

Terra and Aqua:

In the **$OUTDIR/$data_year/$data_month** directory:
CER_SSF1deg-HR_${INSTANCE}.${YYYY}${MM}${DD}${HH}
CER_SSF1deg-HR_${INSTANCE}.${YYYY}${MM}}$DD}${HH}.met

Where YYYY = 2004; MM = 07; DD = 01 – 31; HH = 12

CER_SSF1deg-HR_${INSTANCE}.${YYYY}${MM}${DD}${HH}
CER_SSF1deg-HR_${INSTANCE}.${YYYY}${MM}}$DD}${HH}.met

Where YYYY = 2004; MM = 07; DD = 06; HH = 00

NPP:

In the **$OUTDIR/$data_year/$data_month** directory:
CER_SSF1deg-HR_${INSTANCE}.${YYYY}${MM}${DD}${HH}
CER_SSF1deg-HR_${INSTANCE}.${YYYY}${MM}}$DD}${HH}.met
Where YYYY = 2013; MM = 04; DD = 01 – 30; HH = 12

CER_SSF1deg-HR_${INSTANCE}.${YYYY}${MM}${DD}${HH}
CER_SSF1deg-HR_${INSTANCE}.${YYYY}${MM}}$DD}${HH}.met

Where YYYY = 2013; MM = 04; DD = 06; HH = 00

In the **$CERESHOME/tisa_grid/runlogs** directory:

Terra and Aqua:

CER9.2P3_LogReport_${INSTANCE}.${YYYY}${MM}${DD}${HH}
CER9.2P3_LogStatus_${INSTANCE}.${YYYY}${MM}}$DD}${HH}
CER9.2P3_LogUser_${INSTANCE}.${YYYY}${MM}}$DD}${HH}

Where YYYY = 2004; MM = 07; DD = 01 – 31; HH = 12

CER9.2P3_LogReport_${INSTANCE}.${YYYY}${MM}${DD}${HH}
CER9.2P3_LogStatus_${INSTANCE}.${YYYY}${MM}}$DD}${HH}
CER9.2P3_LogUser_${INSTANCE}.${YYYY}${MM}}$DD}${HH}

Where YYYY = 2004; MM = 07; DD = 06; HH = 00

NPP:

CER9.2P3_LogReport_${INSTANCE}.${YYYY}${MM}${DD}${HH}
CER9.2P3_LogStatus_${INSTANCE}.${YYYY}${MM}}$DD}${HH}
CER9.2P3_LogUser_${INSTANCE}.${YYYY}${MM}}$DD}${HH}

Where YYYY = 2013; MM = 04; DD = 01 – 30; HH = 12

CER9.2P3_LogReport_${INSTANCE}.${YYYY}${MM}${DD}${HH}
CER9.2P3_LogStatus_${INSTANCE}.${YYYY}${MM}}$DD}${HH}
CER9.2P3_LogUser_${INSTANCE}.${YYYY}${MM}}$DD}${HH}

Where YYYY = 2013; MM = 04; DD = 06; HH = 00

3.11.1.2 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley Terra Information System (LaTIS). Successful completion is indicated by an exit code of 0.

3.11.1.3 Test Summary

The UNIX time utility yielded the following results for ONE of the CER9.2P3 jobs, when the test was run on *P6*:

Table 3-11. Run Times for PGE CER9.2P3

	P6 on AMI	***x86 on AMI***
Terra Test Case	0:39.29	0:39.29
Aqua Test Case	1:04.82	

3.11.2 Evaluation Procedures

3.11.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.2P3 generated output with expected output. The eval_runtest.csh script will check the following outputs: (1) SSF1deg-HR files, (2) PCF file, (3) QA files, (4) Logfiles, (5) .met files

NOTE: QA files are optional. They may not get generated for some runs.

SSF1deg-HR comparisons will create a *.dmp file for each corresponding SSF1deg-HR file. The *dmp file will have the header information and the differences if there are found any.

```
cd $TESTDIR
setVariables.csh Test
\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp
```

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

```
cd $TESTDIR
```

Terra

```
source env-variable_Terra.csh
```

Aqua

```
source env-variable_Aqua.csh
```

NPP

```
source env-variable_NPP.csh

$TESTDIR/eval_runtest.pl 1
$TESTDIR/eval_runtest.pl 2
```

$TESTDIR/eval_runtest.pl 3
$TESTDIR/eval_runtest.pl 4
$TESTDIR/eval_runtest.pl 5

There should be no reported differences.

3.11.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts.

3.12 CER9.3P3: SSF1degB Postprocessor (Edition 4)

3.12.1 Stand Alone Test Procedures

Before testing PGE CER9.3P3, source the appropriate environment scripts and then set some additional general environment variables.

```
source $CERESENV (P6/x86 version)

set BINDIR = $CERESHOME/tisa_grid/CER9.3P3/bin
set RCFDIR = $CERESHOME/tisa_grid/CER9.3P3/rcf
set TESTDIR = $CERESHOME/tisa_grid/CER9.3P3/test_suites
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.3P3
set PCFDIR = $CERESHOME/tisa_grid/CER9.3P3/rcf/pcf
set DataArchive = $CERESHOME/tisa_grid/data

unlimit
```

NOTE: PGE CER9.3P3 uses the output produced from testing PGE CER9.2P3.

3.12.1.1 Execution

Terra:

```
cd $TESTDIR
source env-variable_Terra.csh
```

Aqua:

```
cd $TESTDIR
source env-variable_Aqua.csh

set OUTDIR_B = $DataArchive/SSF1degB/${SS9}_${PS9_3}
set OUTDIR_D = $DataArchive/SSF1degD/${SS9}_${PS9_3}

setenv data_year 2004
setenv data_month 07
setenv DATADATE ${data_year}${data_month}
setenv INSTANCE ${SS9}_${PS9_3}_${CC9_3}
```

On P6:

```
cd $RCFDIR
CER9.3P3-SGE_Driver.pl -date $DATADATE -clean -platform p6
```

NOTE: There are less than required input hourly files available for testing.

To test PGE with existing input files use ***force*** command as follows**.**

CER9.3P3-SGE_Driver.pl -date $DATADATE -clean -platform p6 -force

On x86:

cd $RCFDIR
CER9.3P3-SGE_Driver.pl -date $DATADATE -clean -platform x86

NOTE: There are less than required input hourly files available for testing.

To test PGE with existing input files use force command as follows**.**

CER9.3P3-SGE_Driver.pl -date $DATADATE -clean -platform x86 -force

NPP:

cd $TESTDIR
source env-variable_NPP.csh

set OUTDIR_B = $DataArchive/SSF1degB/${SS9}_${PS9_3}
set OUTDIR_D = $DataArchive/SSF1degD/${SS9}_${PS9_3}

setenv data_year 2013
setenv data_month 04
setenv DATADATE ${data_year}${data_month}
setenv INSTANCE ${SS9}_${PS9_3}_${CC9_3}

On P6:

cd $RCFDIR
CER9.3P3-SGE_Driver.pl -date $DATADATE -clean -platform p6

NOTE: There are less than required input hourly files available for testing.

To test PGE with existing input files use ***force*** command as follows**.**

CER9.3P3-SGE_Driver.pl -date $DATADATE -clean -platform p6 -force

On x86:

cd $RCFDIR
CER9.3P3-SGE_Driver.pl -date $DATADATE -clean -platform x86

NOTE: There are less than required input hourly files available for testing.

To test PGE with existing input files use force command as follows**.**

CER9.3P3-SGE_Driver.pl -date $DATADATE -clean -platform x86 -force

After job completion of the post processor, PGE CER9.3P3, the following files will have been created:

Terra/Aqua/NPP:

In the **$OUTDIR_B/$data_year/$data_month** directory:
CER_SSF1degB_${INSTANCE}.${DATADATE}Znnn
CER_SSF1degB_${INSTANCE}.${DATADATE}Znnn.met

where nnn = 001 .. 180.

In the **$OUTDIR_D/$data_year/$data_month** directory:
CER_SSF1degD_${INSTANCE}.${DATADATE}dd
CER_SSF1degD_${INSTANCE}.${DATADATE}dd.met

Where dd = 1- 31

In the **$CERESHOME/tisa_grid/runlogs** directory:
CER9.3P3_LogReport_${INSTANCE}.${DATADATE}
CER9.3P3_LogStatus_${INSTANCE}.${DATADATE}
CER9.3P3_LogUser_${INSTANCE}.${DATADATE}

3.12.1.2 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley Terra Information System (LaTIS). Successful completion is indicated by an exit code of 0.

3.12.1.3 Test Summary

The UNIX time utility yielded the following results for ONE of the CER9.3P3 jobs, when the test was run on *P6/ x86*:

Table 3-12. Run Times for PGE CER9.3P3

	AMI-P6	***AMI-x86***
Test Case	0:07.48	0:07.48

3.12.2 Evaluation Procedures

3.12.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.3P3 generated output with expected output. The eval_runtest.csh script will check the following outputs: (1) SSF1degB Binary Output files, (2) PCF file, (3) Logfiles, and (4) .met files.

```
cd $TESTDIR
setVariables.csh Test
\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp
```

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

Terra:

```
cd $TESTDIR
source env-variable_Terra.csh
```

Aqua:

```
cd $TESTDIR
source env-variable_Aqua.csh
```

NPP:

```
cd $TESTDIR
source env-variable_NPP.csh

$TESTDIR/eval_runtest.pl 1
$TESTDIR/eval_runtest.pl 2
$TESTDIR/eval_runtest.pl 3
$TESTDIR/eval_runtest.pl 4
```

There should be no reported differences.

3.12.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts.

3.13 CER9.4P3: SSF1deg-Hour HDF Processor (Edition 4)

3.13.1 Stand Alone Test Procedures

Before testing PGE CER9.4P3, source the appropriate environment scripts and copy the test data to the appropriate directory.

```
source $CERESENV (P6/x86 version)

set BINDIR = $CERESHOME/tisa_grid/CER9.4P3/bin
set RCFDIR = $CERESHOME/tisa_grid/CER9.4P3/rcf
set TESTDIR = $CERESHOME/tisa_grid/CER9.4P3/test_suites
set EXPDIR = $CERESHOME/tisa_grid/data_exp/CER9.4P3
set PCFDIR = $CERESHOME/tisa_grid/CER9.4P3/rcf/pcf
set DataArchive = $CERESHOME/tisa_grid/data

unlimit
```

NOTE: PGE CER9.4P3 uses the output produced from testing PGE CER9.3P3.

3.13.1.1 Execution

Terra:

```
source $TESTDIR/env-variable_Terra.csh
```

Aqua:

```
source $TESTDIR/env-variable_Aqua.csh

cd $RCFDIR
set OUTDIR = $DataArchive/SSF1deg-Hour/${SS9}_${PS9}

setenv data_year 2004
setenv data_month 07
setenv DATADATE ${data_year}${data_month}
setenv INSTANCE ${SS9}_${PS9}_${CC9_4}
```

On P6:

```
CER9.4P3-SGE_Driver.pl -date $DATADATE -clean -platform p6
```

On x86:

```
CER9.4P3-SGE_Driver.pl -date $DATADATE -clean -platform x86
```

NPP:

source $TESTDIR/env-variable_NPP.csh

cd $RCFDIR
set OUTDIR = $DataArchive/SSF1deg-Hour/${SS9}_${PS9}

setenv data_year 2013
setenv data_month 04
setenv DATADATE ${data_year}${data_month}
setenv INSTANCE ${SS9}_${PS9}_${CC9_4}

On P6:

CER9.4P3-SGE_Driver.pl -date $DATADATE -clean -platform p6

On x86:

CER9.4P3-SGE_Driver.pl -date $DATADATE -clean -platform x86

After job completion of the post processor, PGE CER9.4P3, the following files will have been created:

In the **$OUTDIR/$data_year/$data_month** directory:
CER_SSF1deg-Hour_${INSTANCE}.${DATADATE}nn
CER_SSF1deg-Hour_${INSTANCE}.${DATADATE}nn.met

where nn = 01 .. 31

In the **$CERESHOME/tisa_grid/runlogs** directory:
CER9.4P3_LogReport_${INSTANCE}.${DATADATE}
CER9.4P3_LogStatus_${INSTANCE}.${DATADATE}
CER9.4P3_LogUser_${INSTANCE}.${DATADATE}

3.13.1.2 Exit Codes

All TISA Gridding software terminates using the CERES-defined EXIT CODES for the Langley Terra Information System (LaTIS). Successful completion is indicated by an exit code of 0.

3.13.1.3 Test Summary

The UNIX time utility yielded the following results for ONE of the CER9.4P3 jobs, when the test was run on *P6/x86*:

Table 3-13. Run Times for CER9.4P3

	p6	***x86***
Test Case	71 minutes	18 minutes

3.13.2 Evaluation Procedures

3.13.2.1 Output Evaluation

Execute the following commands to compare PGE CER9.4P2 generated output with expected output. The eval_runtest.csh script will check the following outputs: (1) SFC HDF Output files, (3) Logfiles, and (4) .met files.

```
cd $TESTDIR
setVariables.csh Test
\cp $EXPDIR/variables-Exp $TESTDIR/variables-Exp
```

NOTE: It is important that the PGE execution and the creation of the above file be done on the same day. If the day differs then the logfiles, .met files, and test evaluations will not be successful.

Terra:

```
source $TESTDIR/env-variable_Terra.csh
```

Aqua:

```
source $TESTDIR/env-variable_Aqua.csh
```

NPP:

```
source $TESTDIR/env-variable_NPP.csh

$TESTDIR/eval_runtest.pl 1
$TESTDIR/eval_runtest.pl 3
$TESTDIR/eval_runtest.pl 4
```

3.13.3 Solutions to Possible Problems

In the event of problems, contact one of the TISA Gridding analysts

References

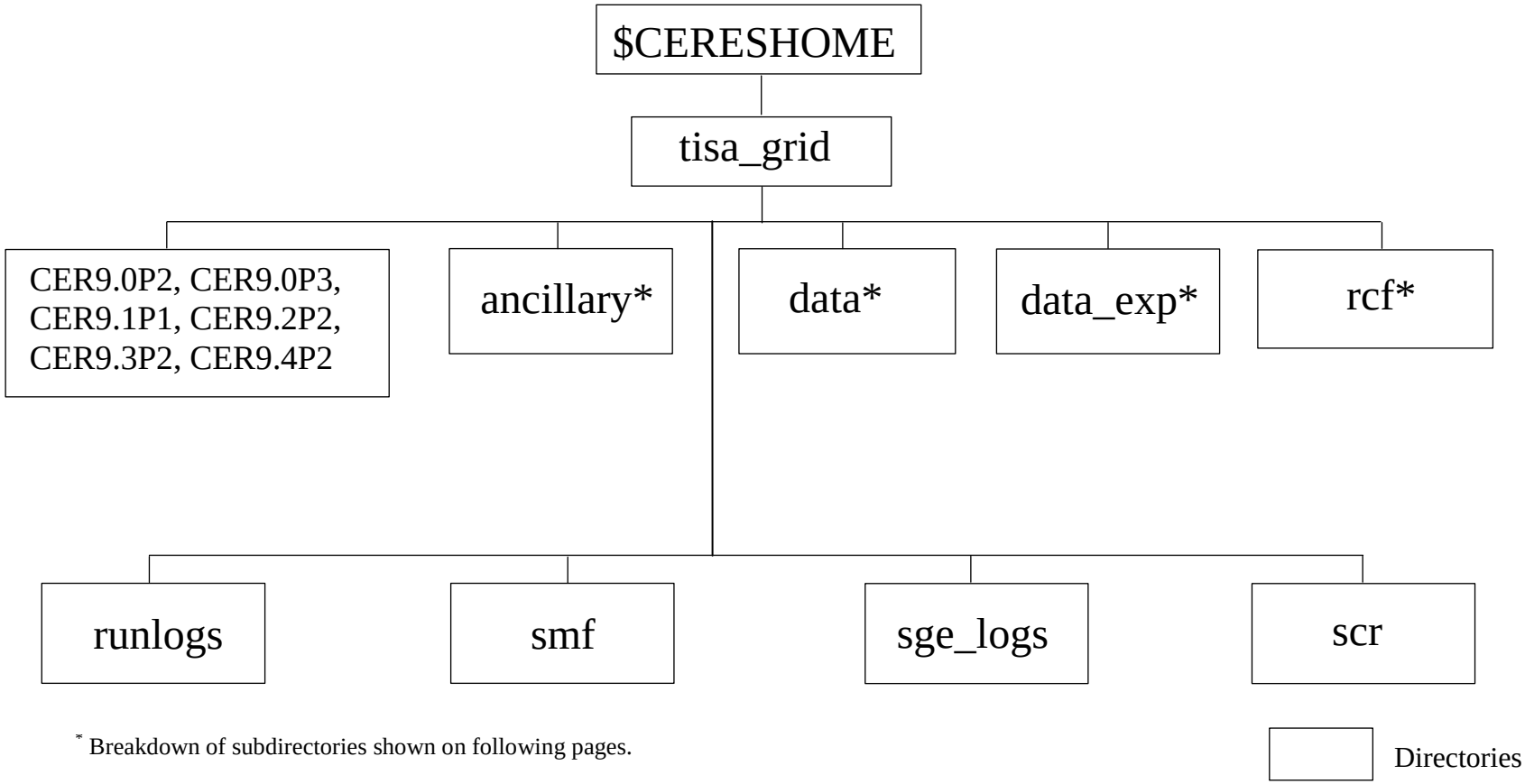
1. Clouds and the Earth's Radiant Energy System (CERES) Data Management System, *Data Products Catalog*, Release 2, March 1998

Appendix A
Acronyms and Abbreviations

ASDC	Atmospheric Science Data Center
CERES	Clouds and the Earth's Radiant Energy System
CRS	Cloud Radiated Swath
DAAC	Distributed Active Archive Center
EOS	Earth Observing System
EOS-AM	EOS Morning Crossing Mission
EOS-PM	EOS Afternoon Crossing Mission
ERBE	Earth Radiation Budget Experiment
ERBS	Earth Radiation Budget Satellite
FSW	Gridded Single Satellite Fluxes and Clouds and Compute Spatial Averages
GMT	Greenwich meridian time
HDF	Hierarchical Data Format
MCF	Metadata Control Files
MOA	Meteorological, Ozone, and Aerosol
NASA	National Aeronautics and Space Administration
NOAA	National Oceanic and Atmospheric Administration
PCF	Process Control File
PGE	Product Generation Executives
PMOA	Post Meteorological, Ozone, and Aerosol
SFC	Gridded Single Satellite TOA and Surface Fluxes
SSF1deg-Hour	Gridded Single Satellite TOA and Surface Fluxes
SMF	Status Message File
SSF	Single Satellite CERES Footprint TOA and Surface Fluxes, Clouds
TISA	Time Interpolation and Spatial Averaging
TOA	Top-of-the-Atmosphere
TRMM	Tropical Rainfall Measuring Mission

Appendix B
Directory Structure Diagrams for Edition3 on *AMI*

Directory Structure for Subsystem 9



* Breakdown of subdirectories shown on following pages.

Figure B-1. Directory Structure for Subsystem 9 within the TISA_grid Working Group

Breakdown of the *tisa_grid/* Directory

CER9.0P2, CER9.0P3, CER9.1P1, CER9.2P2, CER9.3P2, & CER9.4P2

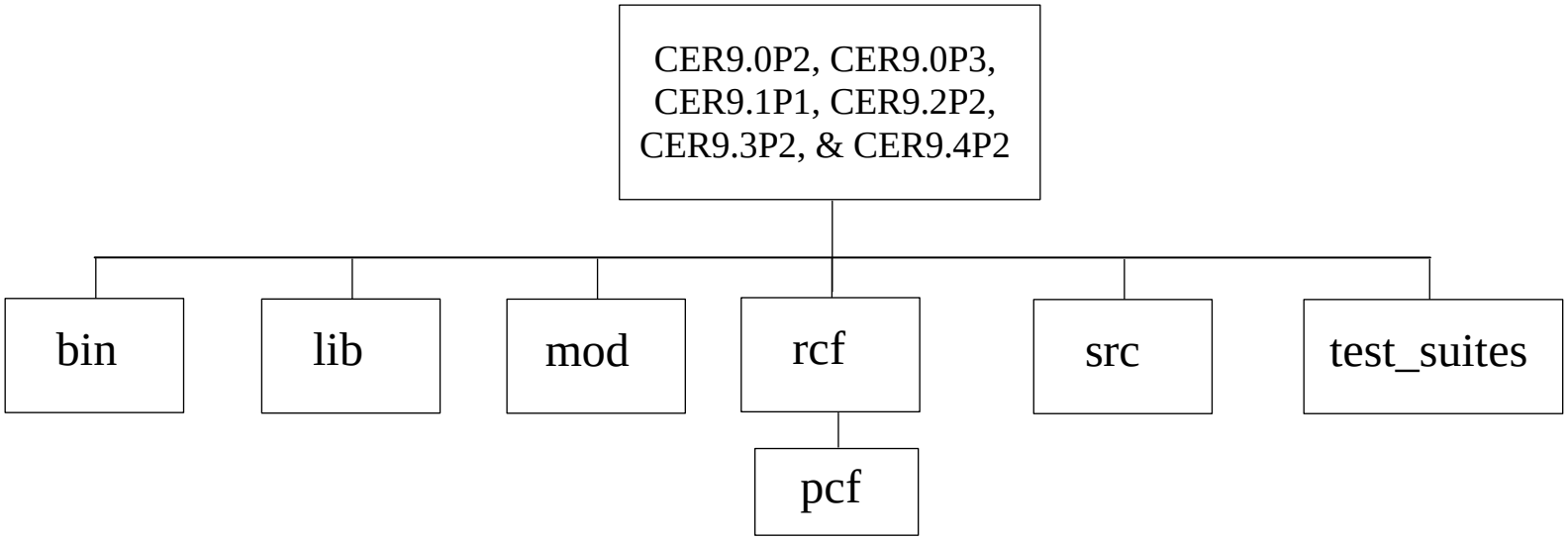


Figure B-1. Directory Structure for Subsystem 9 within the TISA_grid Working Group

Breakdown of the *tisa_grid/rcf* Directory

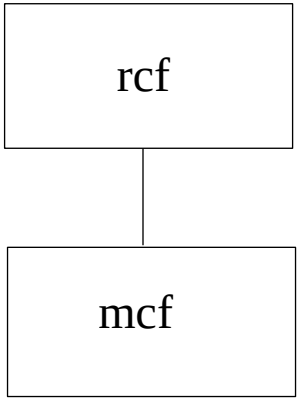


Figure B-1. Directory Structure for Subsystem 9 within the TISA_grid Working Group

Breakdown of the *tisa_grid/ancillary* Directory

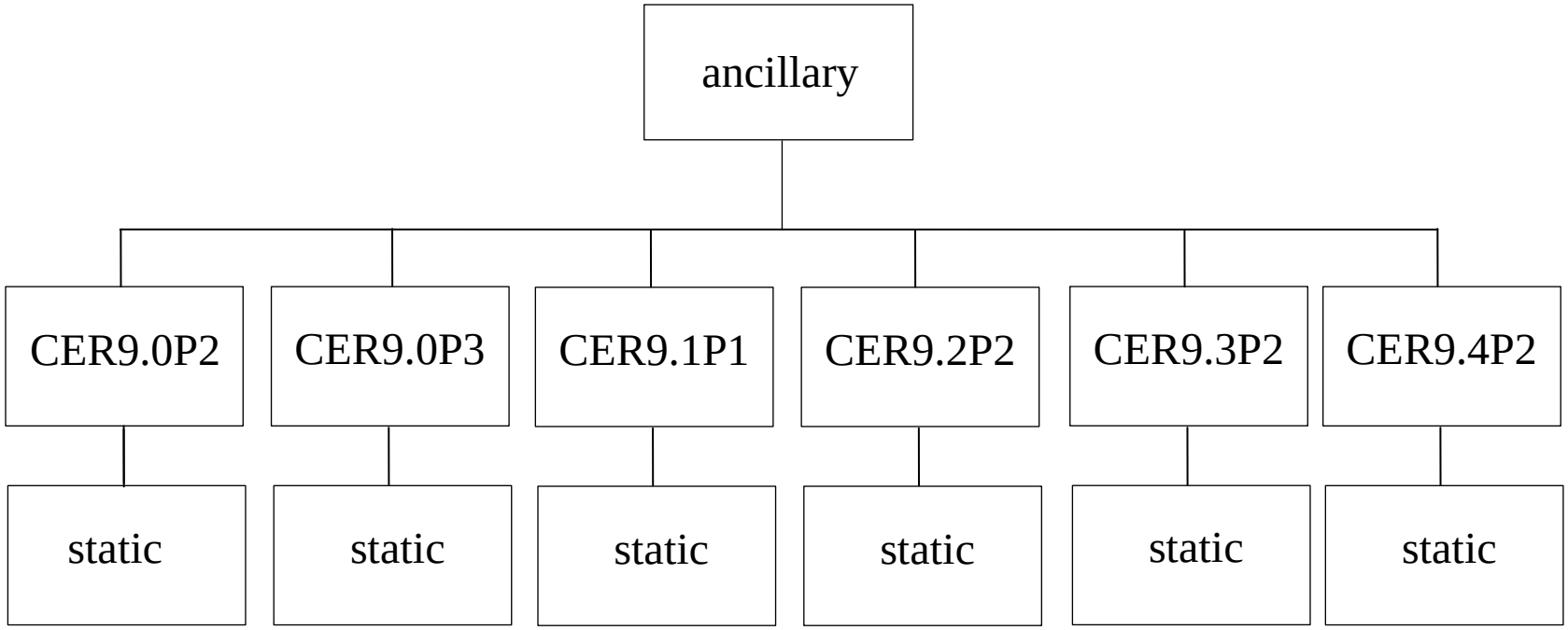
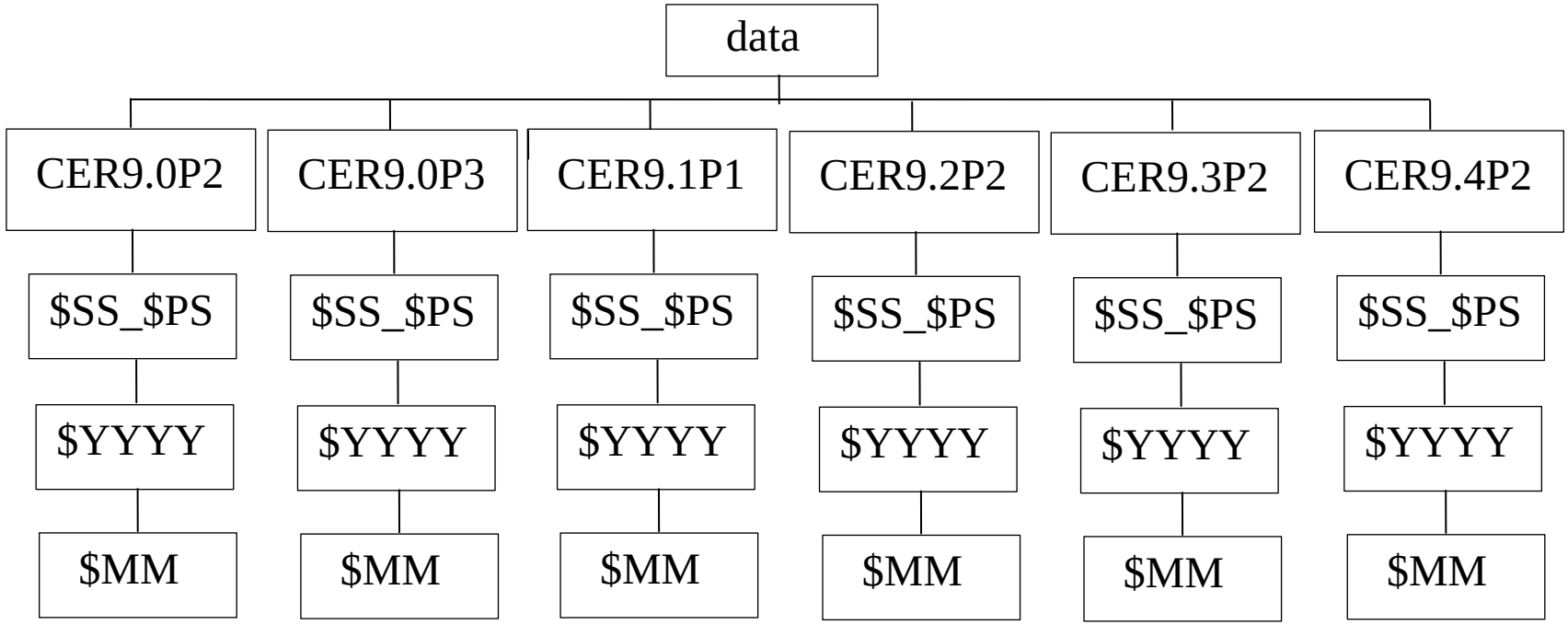


Figure B-1. Directory Structure for Subsystem 9 within the TISA_grid Working Group

Breakdown of the *tisa_grid/data* Directory



$SS: Sampling_Strategy
$PS: Production_Strategy
$YYYY: Year
$MM: Month

* Breakdown of subdirectories shown on following pages.

Figure B-1. Directory Structure for Subsystem 9 within the TISA_grid Working Group

Breakdown of the *tisa_grid/data_exp* Directory

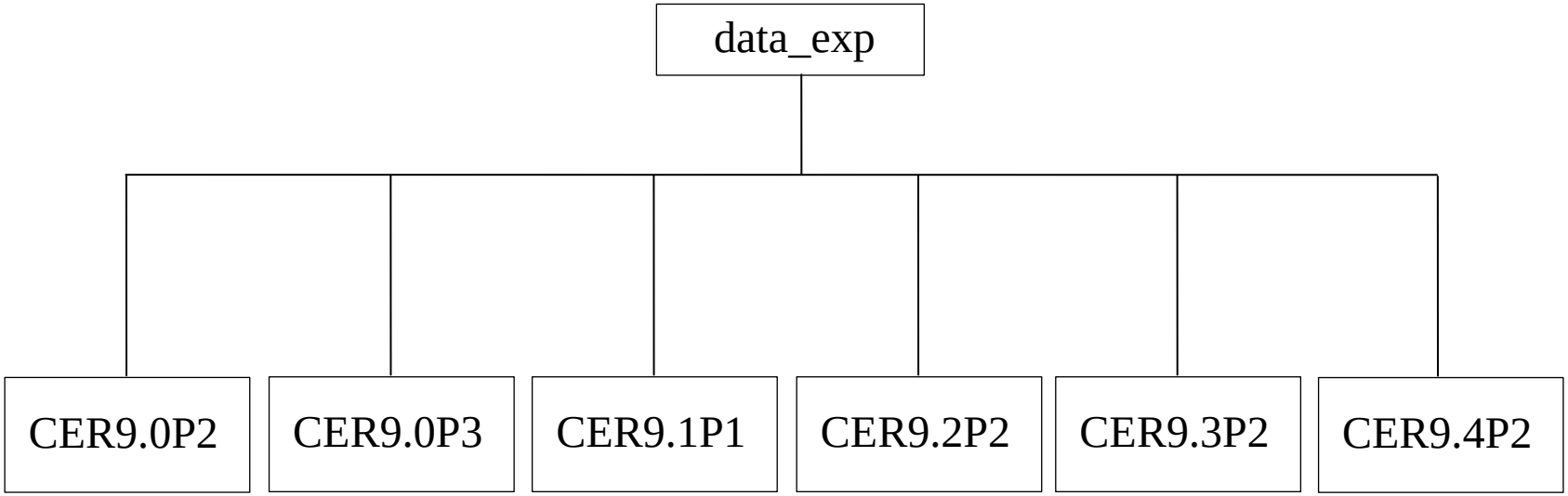


Figure B-2. Directory Structure for Subsystem 9 within the TISA_grid Working Group

Appendix C
File Description Tables

C.1 Production Scripts

The following scripts must be moved to the production environment.

Table C.1-1. Production Scripts

File Name	Format	Description
CER9.2P2_processor.csh	ASCII	C-shell script which executes the Main Processor for Edition 3 (PGE 9.2P2)
CER9.3P2_processor.csh	ASCII	C-shell script which executes the Post Processor for Edition 3 (PGE 9.3P2)
CER9.4P2_processor.csh	ASCII	C-shell script which executes the SSF1deg-Hour HDF Processor.
pcf_gen_9.0P1.pl	ASCII	Perl script which creates the PCF for PGE 9.0P1
pcf_gen_9.1P1.pl	ASCII	C-Shell script which creates the PCF for PGE 9.1
pcf_gen_9.2P2.pl	ASCII	Perl script which creates PCF for Edition 3 PGE 9.2P2
pcf_gen_9.3P2.pl	ASCII	Perl script which creates PCF for Edition 3 PGE 9.3P2.
Pcf_gen_9.4P2.pl	ASCII	Perl script which creates PCF for Edition 3 PGE 9.4P2.
run_pge	ASCII	C-Shell script which runs all the PGEs for the Test Case
gen_pcf_template.csh	ASCII	C-Shell script which generates the PCF template for all PGEs
gen_pcf_template.perl	ASCII	Perl script which generates the PCF template for a PGE
diff_log	ASCII	C-Shell script which performs comparison of log files
diff_met	ASCII	C-Shell script which performs comparison of metadata files
diff_pcf	ASCII	C-Shell script which performs comparison of PCF files
diff_qc	ASCII	C-Shell script which performs comparison of QC files
clean	ASCII	C-Shell script which removes output files from TISA Gridding PGEs

Table C.1-1. Production Scripts

File Name	Format	Description
env-variable_Terra.csh env-variable_Aqua.csh	ASCII	Perl scripts which sets environment variables for use in the PCF generators for PGEs 9.2P2 – 9.4P2
clean.pl	ASCII	Perl script which removes output files from PGEs 9.2P2 – 9.4P2.
CER9.0P1-env-*.pl (where * is FM1,FM2,FM3,FM4)	ASCII	Perl script which sets environment variables for each instrument use in the ASCII file generator for CER9.0P1
CER9.0P1-env.pl	ASCII	Perl script which sets environment variables use in the ASCII file generator for CER9.0P1

C.2 Executables

Table C.2-1. Executables

File Name	Format	Description
CER9.0P2_${HOSTTYPE}.exe[1]	Binary	ISCCP-D2like binary Processor executable (PGE 9.0P2)
CER9.0P3_${HOSTTYPE}.exe[1]	Binary	ISCCP-D2like HDF Processor executable (PGE 9.0P3)
CER9.1_${HOSTTYPE}.exe[1]	Binary	Post MOA Processor executable (PGE 9.1)
CER9.2P2_${HOSTTYPE}.exe[2]	Binary	Main Processor executable for Edition 3 (PGE 9.2P2)
CER9.3P2_${HOSTTYPE}.exe[2]	Binary	Post Processor executable for Edition 3 (PGE 9.3P2)
CER9.4P2_${HOSTTYPE}.exe[2]	Binary	SSF1deg-Hour HDF Processor executable for Edition 3 (PGE 9.4P2)

[1]These files will be generated on execution of Subsystem software and are not included in the tar file.

[2]These files will be generated on execution of Subsystem software and are not included in the tar file.

C.3 Status Message Files

Table C.3-1. Status Message Files

File Name	Format	Description
ADMIN_MOD_25850.t	ASCII	Status Message Text File
CLOUD_MOD_25851.t	ASCII	Status Message Text File
CLRSKY_ADJ_MOD_25852.t	ASCII	Status Message Text File
CONTROLLER_25800.t	ASCII	Status Message Text File
CRS_FILE_25820.t	ASCII	Status Message Text File
FLUX_MOD_25853.t	ASCII	Status Message Text File
FOOTPRINT_25801.t	ASCII	Status Message Text File
GLOBE_25802.t	ASCII	Status Message Text File
GRIDPCF_25803.t	ASCII	Status Message Text File
HOURBOX_25804.t	ASCII	Status Message Text File
PMOA_FILE_25826.t	ASCII	Status Message Text File
POSTPROC_25891.t	ASCII	Status Message Text File
POST_MOA_26211.t	ASCII	Status Message Text File
REGION_MOD_25854.t	ASCII	Status Message Text File
SCENE_MOD_25855.t	ASCII	Status Message Text File
SFC_HDF_26222.t	ASCII	Status Message Text File
SFC_HOUR_25824.t	ASCII	Status Message Text File
SFC_RANGE_25825.t	ASCII	Status Message Text File
SOL_STATS_25830.t	ASCII	Status Message Text File
SRF_RAD_MOD_25856.t	ASCII	Status Message Text File
SSF_FILE_25821.t	ASCII	Status Message Text File
STATS_MOD_25857.t	ASCII	Status Message Text File
SWATH_25805.t	ASCII	Status Message Text File
SW_DIRMOD_RTNS_25831.t	ASCII	Status Message Text File
SYS_PARAMS_25832.t	ASCII	Status Message Text File
TISAGRID_25888.t	ASCII	Status Message Text File
TISAVG_26300.t	ASCII	Status Message Text File
ISCCP_HDF_26223.t	ASCII	Status Message Text File

C.4 Processing Control Files (PCF) and Metadata Control Files (MCF)

The Process Control Files are not included in the Software Delivery Package. They will be created by the PCF generator scripts.

Table C.4-1. Metadata Control Files

File Name	Format	Description
ISCCP.MCF	ODL	MCF for the monthly HDF ISCCP-D2like file(s) produced by PGE 9.0
PMOA.MCF	ODL	MCF for the Post MOA file(s) produced by PGE 9.1
SFC-HR.MCF	ODL	MCF for the hourly SFC file(s) produced by PGE 9.2P2
MRGRP.MCF	ODL	MCF for the hourly SFC range report produced by PGE 9.2P2
MQCRP.MCF	ODL	MCF for the QC report produced by PGE 9.3P2
SFCB.MCF	ODL	MCF for the monthly SFC file(s) produced by PGE 9.3P2
SFC.MCF	ODL	MCF for the monthly HDF SFC file(s) produced by PGE 9.4P2
MOVLP.MCF	ODL	MCF SFC monthly overlap file produced by PGE 9.2P2

Table C.4-2. Process Control Files[1]

File Name	Format	Description
CER9.0P1_PCF_Terra-FM1-MODIS_TestSuite_000000.200207	ASCII	Process Control File for PGE 9.0
CER9.2P2_PCF_Terra-MODIS_TestSuite_000000.2004041116 CER9.2P2_PCF_Terra-MODIS_TestSuite_000000.2004041116.log	ASCII	Process Control file and log file for PGE 9.2P2
CER9.3P2_PCF_Terra-MODIS_TestSuite_000000.200404 CER9.3P2_PCF_Terra-MODIS_TestSuite_000000.200404.log	ASCII	Process Control file and log file for PGE 9.3P2

Table C.4-2. Process Control Files[1]

File Name	Format	Description
CER9.4P2_PCF_Terra-MODIS_TestSuite_000000.200404 CER9.4P2_PCF_Terra-MODIS_TestSuite_000000.200404.log	ASCII	Process Control file and log file for PGE 9.4P2

[1] These files will be generated on execution of Subsystem software and are not included in the tar file.

C.5 Ancillary Input Data

Table C.5-1. Ancillary Input Data

File Name	Format	Description
CERES_DIR_MODEL_19971212	ASCII	CERES Directional Models
sfc_cloud_prop_range	ASCII	Range check parameters for SFC cloud properties
sfc_emissivity_range	ASCII	Range check parameters for SFC emissivity data
sfc_flux_srf_range	ASCII	Range check parameters for SFC surface adjustment fluxes
sfc_flux_toa_range	ASCII	Range check parameters for SFC TOA fluxes
sfc_region_range	ASCII	Range check parameters for SFC region data
sfc_scene_range	ASCII	Range check parameters for SFC angular model scene type data

C.6 Output Temporary Data Files (Production Results)

Table C.6-1. Output Temporary Data Files

File Name	Format	Description
CER_SFCD_TRMM-PFM-VIRS_ValidationR2_000000.199801$day[1] (where $day is 01-31)	Binary	Temporary Data Files Created by PGE 9.3P2
CER_ISCCP-D2likeD_Terra-FM1-MODIS_TestSuite_000000.200207$day[1] (where $day is 01-31)	Binary	Temporary Data Files Created by PGE 9.0

[1]These files will be generated on execution of Subsystem software and are not included in the tar file.