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

Data Management System

CERES Synoptic SARB (Subsystem 7.2)

Release 5 Test Plan
TRMM Launch
Version 2

Primary Authors

Lisa Coleman, Tom Caldwell

Science Systems and Applications, Inc. (SSAI)
One Enterprise Parkway, Suite 200
Hampton, VA 23666

NASA Langley Research Center
Climate Science Branch
Science Directorate
21 Langley Boulevard
Hampton, VA 23681-2199

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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
06/19/03	R3V1	445	• Initial version of document.	All
			• Updated format to comply with standards.	All
08/13/04	R3V2	550	• Updated tar filenames.	2.1
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			• Updated format to comply with standards.	All
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			• Updated test case summary.	3.2.1.1.2
			• Added new section for Aqua test case.	3.3
			• Updated filenames and added surface albedo history and site list filenames.	Table C-3

Document Revision Record

SCCR Approval Date	Release/ Version Number	SCCR Number	Description of Revision	Section(s) Affected
08/19/09	R5V1	721	• Updated names of tar files. • Updated directory information. • Updated test case statistics.	2.1 2.2, 3.1, 3.2, 3.3, Appendix B Table 3-2, Table 3-3
09/09/10	R5V2	804	• Updated compilation information and tar file names. • Updated compilation script names and information. • Updated library and executable information. • Added new section for 3.0 and removed old one. • Updated directory charts. • Updated script and executable names and data file paths.	Secs. 2.1 & 2.2 Sec. 2.2.1 Sec. 2.1 Sec. 3.0 App. B App. C

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1.0 Introduction

The Clouds and the Earth's Radiant Energy System (CERES) is a key component of the Earth Observing System (EOS). The CERES instrument provides radiometric measurements of the Earth's atmosphere from 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 CERES instruments are improved models of the Earth Radiation Budget Experiment (ERBE) scanner instruments, which operated from 1984 through 1990 on the National Aeronautics and Space Administration's (NASA) Earth Radiation Budget Satellite (ERBS) and on the National Oceanic and Atmospheric Administration's (NOAA) operational weather satellites NOAA-9 and NOAA-10. The strategy of flying instruments on Sun-synchronous, polar orbiting satellites, such as NOAA-9 and NOAA-10, simultaneously with instruments on satellites that have precessing orbits in lower inclinations, such as ERBS, was successfully developed in ERBE to reduce time sampling errors. CERES continues that strategy by flying instruments on the polar orbiting EOS platforms simultaneously with an instrument on the Tropical Rainfall Measuring Mission (TRMM) spacecraft, which has an orbital inclination of 35 degrees. In addition, to reduce the uncertainty in data interpretation and to improve the consistency between the cloud parameters and the radiation fields, CERES includes cloud imager data and other atmospheric parameters. The CERES instruments fly on the TRMM spacecraft, on the EOS-AM platforms and on the EOS-PM platforms. The TRMM satellite carries one CERES instrument while the EOS satellites carry two CERES instruments, one operating in a fixed azimuth scanning mode and the other operating in a rotating azimuth scanning mode.

1.1 Document Overview

This document, the CERES Release 3 Delivery Test Plan for the CERES Synoptic Surface and Atmospheric Radiation Budget (SARB) Subsystem (Subsystem 7.2), is part of the CERES Subsystem 7.2 Release 3 delivery package provided to the Langley Atmospheric Sciences Data Center (ASDC). It provides a description of the CERES Synoptic SARB Subsystem Release 3 software, and explains the procedures for installing, executing, and testing the software. A section is also included on validating the results of executing the software. A description of acronyms and abbreviations is provided in Appendix A, a directory structure diagram is contained in Appendix B, and a description of the software and data files is contained in Appendix C.

The 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 for Synoptic SARB
Appendix A - Acronyms and Abbreviations
Appendix B - Directory Structure Diagrams
Appendix C - File Description Tables

1.2 Subsystem Overview

1.2.1 CER7.2.1P1: CERES Synoptic SARB Subsystem Main-Processor

The Product Generation Executive (PGE) CER7.2.1P1 processes the CERES Synoptic SARB Subsystem. This PGE consists of a Main-Processor only. The Synoptic SARB Subsystem Main-Processor computes vertical longwave, shortwave, and window channel flux profiles that span from the surface to the top of the Earth's atmosphere for each CERES region within a 1-degree latitudinal zone for each hour of the month. The primary output is the Synoptic Intermediate (SYNI) product, which contains vertical flux profile data for all CERES regions. A secondary output is the Synoptic Subset (SYNS) product, which contains the TSIB and SYNI data for regions selected by Science Team members. An ASCII Quality Control (QC) report is also produced with each run of the Subsystem.

The SYNI serves as input for CERES Subsystem 8.0, PGE CER8.1P1.

2.0 Software and Data File Installation Procedures

This section describes how to install both the SARB library and the Subsystem 7.2 Synoptic SARB software in preparation for making the necessary test runs at the Langley ASDC. The installation procedures include instructions for uncompressing and untarring the delivered files, properly defining environmental variables, and compiling the Synoptic SARB programs.

2.1 Installation

Software/Data File Install Procedure:

1. The scripts, makefiles, and Process Control Files (PCF) in the Subsystem 7.2 delivery package expect the following environment variables, found in the **$CERESENV** script, to be defined:

   PGSDIR - Directory for Toolkit libraries
   CERESHOME - Top Directory for CERES Software
   CERESLIB - Directory for CERESlib
   PGSINC - Pointer to the PGS Include file directory
   PGSLIB - Directory which contains the 64-bit Toolkit library file
   PGSMSG - Directory which contains Toolkit and CERES Status Message Files
   HDFDIR - Pointer to the HDF home directory

   The included makefiles for Synoptic SARB redefine the following environment variables for *x86* compilation:

   F90COMP - Fortran 90 compilation flags (use the following options: -c -O2 -fno-second-underscore -fconvert=big-endian)

2. Change directory to the directory where you plan to install the SARB Subsystems. (The following instructions assume that the directory will be **$CERESHOME**.)

3. Uncompress and untar the Synoptic SARB Subsystem files:

   uncompress SynSARB_data_R5-804.tar.Z
   tar xf SynSARB_data_R5-804.tar

   uncompress SynSARB_anc_R5-804.tar.Z
   tar xf SynSARB_anc_R5-804.tar

   uncompress SynSARB_src_R5-804.tar.Z
   tar xf SynSARB_src_R5-804.tar

2.2 Compilation

Since many modules and their associated error messages are shared between SARB subsystems, all error message files are stored in one directory. The instructions for compiling these portions of the subsystem follow. Instructions for generating the executable for PGE CER 7.2.1P1 are contained in Section 2.2.1. Since this delivery will be to the *x86* processor, all libraries and

executables will contain this platform type in the names. In this document, the variable $host will be *x86_64*.

NOTE: For full subsystem deliveries, use the following commands to compile all the software:

cd $CERESHOME/sarb/CER7.2.1P1/rcf
./compile_CER7.2.1P1.pl all

1. The Status Message Files can be made by typing:

   cd $CERESHOME/sarb/CER7.2.1P1/rcf
   ./compile_CER7.2.1P1.pl smf

2. The SARB Library can be made by typing:

   cd $CERESHOME/sarb/CER7.2.1P1/rcf
   ./compile_CER7.2.1P1.pl lib

   As this is a software library, no executable is generated. The message "creating **CER7.2.1P1_$host.a**" appears at the end of successful compilation. The file, **CER7.2.1P1_$host.a**, remains in the **$CERESHOME/sarb/CER7.2.1P1/lib/** directory.

2.2.1 Compiling PGE 7.2.1P1

1. The Subsystem 7.2 Main-Processor executable can be made by typing:

   cd $CERESHOME/sarb/CER7.2.1P1/rcf
   ./compile_CER7.2.1P1.pl 7.2.1

   The resulting executable,**CER7.2.1P1_$host.exe**, is stored in the directory **$CERESHOME/sarb/CER7.2.1P1/bin**.

2. Execute the following to compile the comparison software for the Main-Processor output:

   cd $CERESHOME/sarb/CER7.2.1P1/rcf
   ./compile_CER7.2.1P1.pl test

   The resulting executable,**CER7.2.1P1Comp_$host.exe**, remains in the directory **$CERESHOME/sarb/CER7.2.1P1/test_suites**.

3.0 Test and Evaluation Procedures for Synoptic SARB

This section provides general information on how to execute the Subsystem 7.2 PGE 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 CER7.2.1P1 on the *x86* Platforms

3.1.1 Stand-alone Test Procedures

3.1.1.1 Execution

Note: At this time, there is only one test case for Edition3 due to merged instrument inputs. That test case will be the last one listed.

CER7.2.1P1: Terra-FM1 (Edition2)

Command Line Instructions:

unlimit
setenv PROD no (read input locally)
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source TERRA-FM1-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
test_cleanup_CER7.2.1P1.pl
cd $CERESHOME/sarb/CER7.2.1P1/rcf
CER7.2.1P1_pcfgen.pl 200407Z001
run_CER7.2.1P1.pl CER7.2.1P1_PCF_Terra-FM1-MODIS_Edition2SSIT_999999.200407Z001

SGE Testing Instructions:

setenv PROD no (read input locally)
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source TERRA-FM1-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
test_cleanup_CER7.2.1P1.pl
cd $CERESHOME/sarb/CER7.2.1P1/rcf
CER7.2.1P1-SGE_Driver.pl -date 200407 -zone 001

CER7.2.1P1: Terra-FM2 (Edition2).

Command Line Instructions:

unlimit
setenv PROD no (read input locally)
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source TERRA-FM2-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
test_cleanup_CER7.2.1P1.pl
cd $CERESHOME/sarb/CER7.2.1P1/rcf
CER7.2.1P1_pcfgen.pl 200407Z001
run_CER7.2.1P1.pl CER7.2.1P1_PCF_Terra-FM2-MODIS_Edition2SSIT_999999.200407Z001
SGE Testing Instructions:

setenv PROD no (read input locally)
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source TERRA-FM2-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
test_cleanup_CER7.2.1P1.pl
cd $CERESHOME/sarb/CER7.2.1P1/rcf
CER7.2.1P1-SGE_Driver.pl -date 200407 -zone 001

CER7.2.1P1: Aqua-FM3 (Edition2)

Command Line Instructions:

unlimit
setenv PROD no (read input locally)
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source AQUA-FM3-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
test_cleanup_CER7.2.1P1.pl
cd $CERESHOME/sarb/CER7.2.1P1/rcf
CER7.2.1P1_pcfgen.pl 200407Z001
run_CER7.2.1P1.pl CER7.2.1P1_PCF_Aqua-FM3-MODIS_Edition2SSIT_999999.200407Z001

SGE Testing Instructions:

setenv PROD no (read input locally)
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source AQUA-FM3-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
test_cleanup_CER7.2.1P1.pl

cd $CERESHOME/sarb/CER7.2.1P1/rcf
CER7.2.1P1-SGE_Driver.pl -date 200407 -zone 001

CER7.2.1P1: Aqua-FM4 (Edition2)

Command Line Instructions:

unlimit
setenv PROD no (read input locally)
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source AQUA-FM4-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
test_cleanup_CER7.2.1P1.pl
cd $CERESHOME/sarb/CER7.2.1P1/rcf
CER7.2.1P1_pcfgen.pl 200407Z001
run_CER7.2.1P1.pl CER7.2.1P1_PCF_Aqua-FM4-MODIS_Edition2SSIT_999999.200407Z001

SGE Testing Instructions:

setenv PROD no (read input locally)
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source AQUA-FM4-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
test_cleanup_CER7.2.1P1.pl
cd $CERESHOME/sarb/CER7.2.1P1/rcf
CER7.2.1P1-SGE_Driver.pl -date 200407 -zone 001

CER7.2.1P1: Terra-Aqua (Edition3)

Command Line Instructions:

unlimit
setenv PROD no (read input locally)
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source TERRA-AQUA-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
test_cleanup_CER7.2.1P1.pl
cd $CERESHOME/sarb/CER7.2.1P1/rcf
CER7.2.1P1_pcfgen.pl 200407Z001
run_CER7.2.1P1.pl CER7.2.1P1_PCF_Terra-Aqua-MODIS_Edition3SSIT_999999.200407Z001

SGE Testing Instructions:

setenv PROD no (read input locally)
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source TERRA-AQUA-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
test_cleanup_CER7.2.1P1.pl
cd $CERESHOME/sarb/CER7.2.1P1/rcf
CER7.2.1P1-SGE_Driver.pl -date 200407 -zone 001

Exit Codes
0 - Normal Exit,
200 - Fatal Error.

3.1.1.2 Test Summary

CER7.2.1P1: Terra-FM1, Terra-FM2, Aqua-FM3, Aqua-FM4 and Terra-Aqua

Total Run Time: 50 min

3.1.2 Evaluation Procedures

This section provides information on how to execute the comparison software for the Synoptic SARB Subsystem PGE CER7.2.1P1.

Note: At this time, there is only one test case for Edition3 due to merged instrument inputs. That test case will be the last one listed.

CER7.2.1P1: Terra-FM1

To compare the created output data:

unlimit
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source TERRA-FM1-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
compare_CER7.2.1P1_files.pl

CER7.2.1P1: Terra-FM2

To compare the created output data:

unlimit
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source TERRA-FM2-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
compare_CER7.2.1P1_files.pl

CER7.2.1P1: Aqua-FM3

To compare the created output data:

unlimit
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source AQUA-FM3-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
compare_CER7.2.1P1_files.pl

CER7.2.1P1: Aqua-FM4

To compare the created output data:

unlimit
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source AQUA-FM4-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
compare_CER7.2.1P1_files.pl

CER7.2.1P1: Terra-Aqua

To compare the created output data:

unlimit
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source TERRA-AQUA-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
compare_CER7.2.1P1_files.pl

3.1.2.1 Log and Status File Results

There are five Log files associated with this PGE. The first three listed below are required by the Toolkit. The Toolkit Log files contain all error and/or status messages produced by the PGE during processing.

1. Report Log File:
   $CERESHOME/sarb/runlogs/CER7.2.1P1/CER7.2.1P1_LogReport_$SS7_2_$PS7_2_$CC7_2.YYYYMMDD
   The Report Log File contains Instrument-related informational messages. These messages may be strictly informative (Error Type = Status or Warning) or may indicate a fatal condition that results in premature PGE termination (Error Type = Fatal).
2. Status Log File:
   $CERESHOME/sarb/runlogs/CER7.2.1P1/CER7.2.1P1_LogStatus_$SS7_2_$PS7_2_$CC7_2.YYYYMMDD
   The Status Log File contains all messages created by the Toolkit and Instrument-related messages that can lead to abnormal ending of the Preprocessor. If an abnormal exit is

encountered by the PGE, this file should be examined for '_E_', (error) or '_F_' (fatal) message types.

3. User Log File:
   $CERESHOME/sarb/runlogs/CER7.2.1P1/CER7.2.1P1_LogUser_$SS7_2_$PS7_2_$CC7_2.YYYYMMDD
   The User Log File is not used at this time, but exists to satisfy the Toolkit requirements. Typically the _U_ and _N_ (User information and Notice) will be written to User Log File and Status Log File.
4. PCF Log File:
   $CERESHOME/sarb/CER7.2.1P1/rcf/pcf/CER7.2.1P1_PCF_$SS7_2_$PS7_2_$CC7_2.YYYYMMDD.log

This log file is created when the PCF is generated and contains a listing of all the environment variables set when the PCF was created along with a listing of all the files used to create this PCF. There is also a listing of any missing optional and mandatory files. The list of existing output data files will only be created if the PGE is run more than once without clean-up.

3.1.2.2 Metadata Evaluation

TBD

3.1.2.3 Evaluation of Comparison Software Output

All comparisons done in Section 3.1.1.1 by the test script should look like the following:

Comparing SYNI file: **CER_SYNI_Terra-FM1_Edition2SSIT_999999.200407Z001 --- SUCCESSFUL**

If an error in a file comparison is found the following message will be displayed:

Comparing SYNI file: **CER_SYNI_$SS7_2_$PS7_2_$CC7_2.{$year}{$month}Z{$zone} -- ERROR:** Check comparison file

The comparison file will be here:
{$CERESHOME}/sarb/CER7.2.1P1/test_suites
CER_SYNI_$SS7_2_$PS7_2_$CC7_2.{$year}{$month}Z{$zone}.compare

NOTE: The SYNI files in the directory matching the $SS7_2, $PS7_2 and $CC7_2 will be compared.

3.1.3 Solutions to Possible Problems

All SYNI data should be deleted before rerunning any of the above tests. This can be done by using the following commands:

```
cd $CERESHOME/sarb/CER7.2.1P1/rcf
source <instr>-env.csh
cd $CERESHOME/sarb/CER7.2.1P1/test_suites
test_cleanup_CER7.2.1P1.pl
```

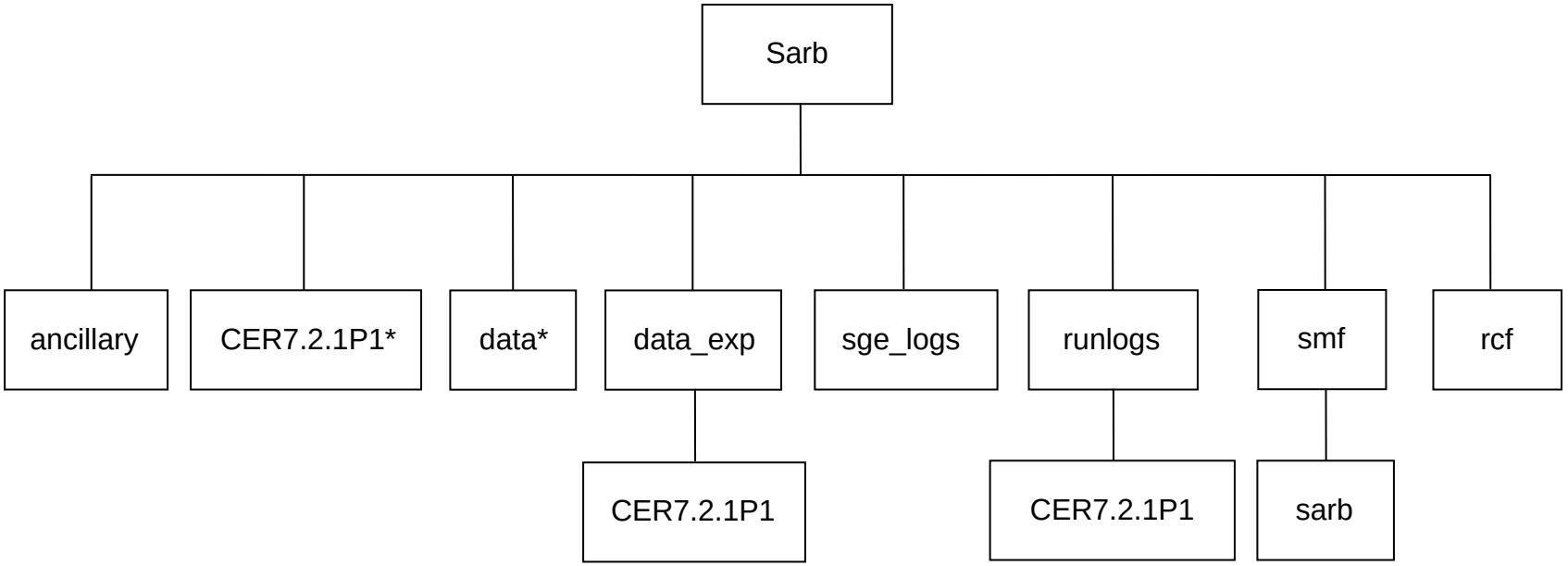
where <instr> can be TERRA-FM1, TERRA-FM2, AQUA-FM3, AQUA-FM4 or TERRA-AQUA, depending on which instrument files you want to clean out of the directories.

Appendix A
Acronyms and Abbreviations

ASDC	Atmospheric Sciences Data Center
CERES	Clouds and the Earth's Radiant Energy System
CERESlib	CERES library
CRS	Clouds and Radiation Swath
CRSB	Clouds and Radiation Swath Binary
DAAC	Distributed Active Archive Center
DRIVTAB	Derivative Table
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
FOV	Field-of-View
HDF	Hierarchical Data Format
LaTIS	Langley TRMM Information System
MCF	Metadata Control Files
NASA	National Aeronautics and Space Administration
NOAA	National Oceanic and Atmospheric Administration
PCF	Process Control File
PGE	Product Generation Executive
QC	Quality Control
SARB	Surface and Atmospheric Radiation Budget
SCF	Science Computing Facility
SMF	Status Message Facility
SYNI	Synoptic Intermediate Product
TRMM	Tropical Rainfall Measuring Mission
TSIB	Time Space Interpolate Binary Product

Appendix B
Directory Structure Diagrams

BREAKDOWN OF THE SYNOPTIC SARB DIRECTORY STRUCTURE



*Represents other tables to display subpaths.

Figure B-1. Synoptic SARB Directory Structure

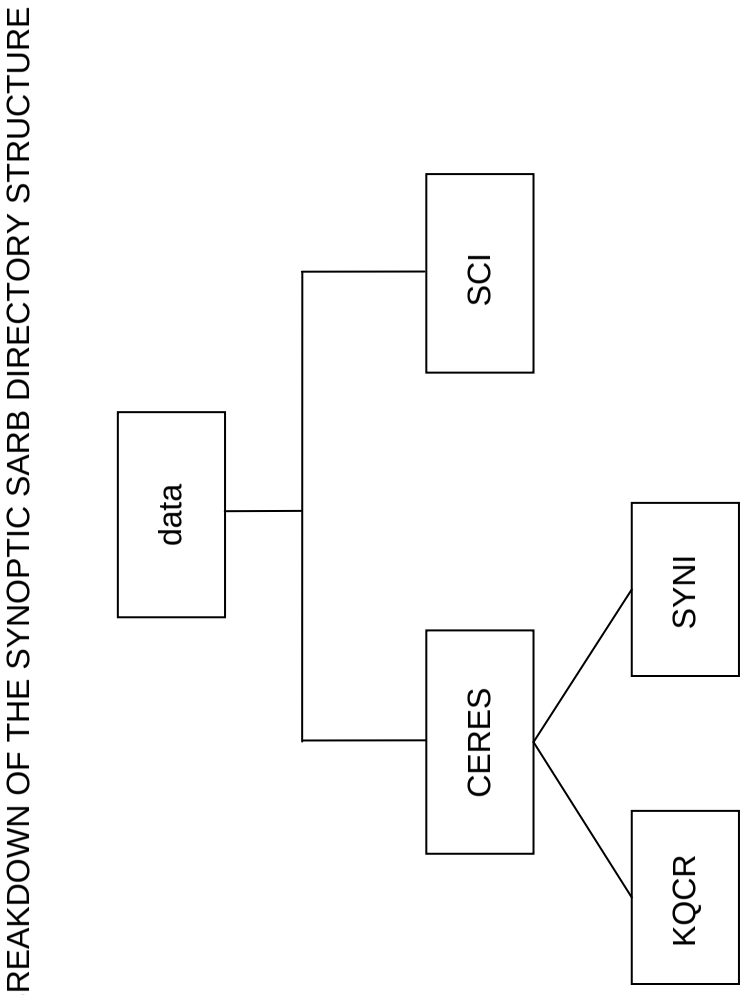


Figure B-1. Synoptic SARB Directory Structure

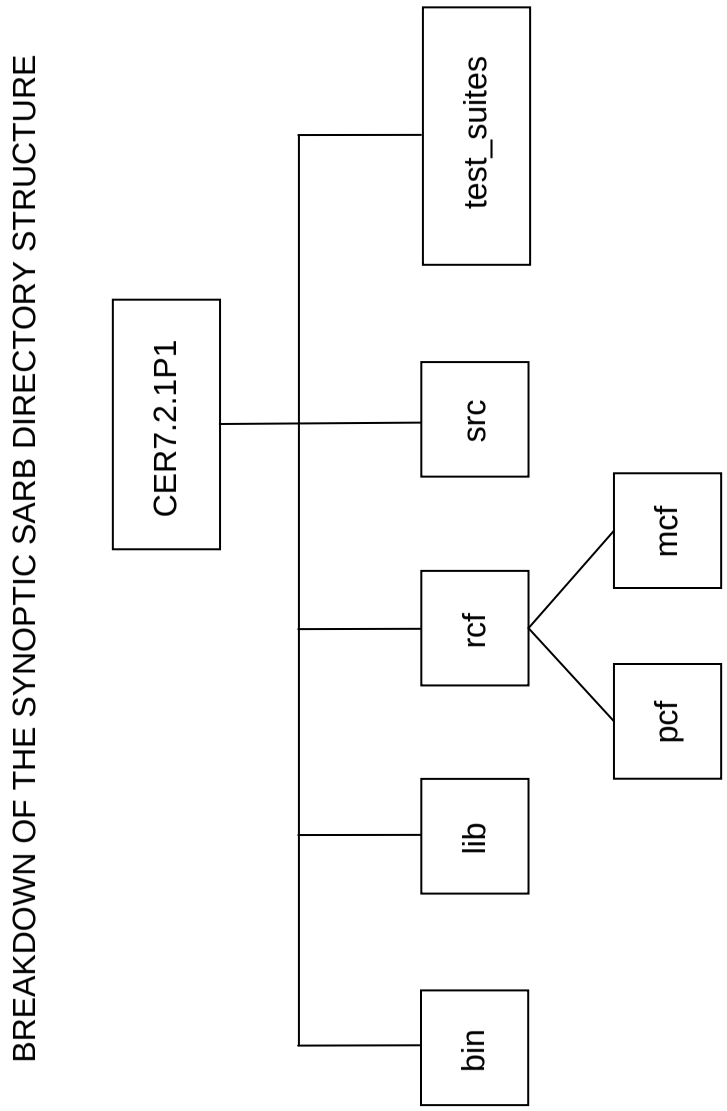


Figure B-1. Synoptic SARB Directory Structure

Appendix C
File Description Tables

C.1 Production Scripts and Executables

The following scripts must be moved to the production environment.

Table C.1-1. Production Scripts

File Name	Format	Description
CER7.2.1P1_pcfgen.pl	ASCII	Perl script which creates the PCF for the Main-Processor
run_CER7.2.1P.pl	ASCII	Perl script which executes the Main-Processor
CER7_2_1_env.pm	ASCII	Perl module for passing env variables
CER7_2_1_FileUtils.pm	ASCII	Perl module containing needed subroutines
CER7.2.1P1-Launch.pl	ASCII	Perl script to send jobs to SGE
CER7.2.1P1-SGE_Driver.pl	ASCII	Perl script to process commands and run SGE
compile_CER7.2.1P1.pl	ASCII	Perl script to compile libraries and executables

Table C.1-2. Executables

File Name	Format	Description
CER7.2.1P1_x86_64.exe[1]	Binary	Main-Processor executable

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

C.2 Processing Control Files (PCF), Metadata Control Files (MCF) and Status Message Files (SMF)

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

Table C.2-1. Metadata Control Files

File Name	Format	Description
mcf_sarbsynqc	ODL	MCF for Binary QC Report for Main-Processor
mcf_sarbsyn	ODL	MCF for Binary CRS file for Main-Processor

Table C.2-2. Process Control Files

File Name	Format	Description
CER7.2.1P1_PCF_TRMM-PFM-VIRS_SSIT_000000.199807Z090[1]	ASCII	Process Control File for Main-Processor

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

Table C.2-3. Status Message Files (SMF)

File Name	Format	Directory	Description
ANCINIT_25725.t	ASCII	smf/sarb	Toolkit Message File
PGS_25725[1]	ASCII	PGS_message/sarb	Toolkit Message File
FLSALUT_25724.t	ASCII	smf/sarb	Toolkit Message File
PGS_25724[1]	ASCII	PGS_message/sarb	Toolkit Message File
GFDLAER_25716.t	ASCII	smf/sarb	Toolkit Message File
PGS_25716[1]	ASCII	PGS_message/sarb	Toolkit Message File
HCMOCNALB_225723.t	ASCII	smf/sarb	Toolkit Message File
PGS_225723[1]	ASCII	PGS_message/sarb	Toolkit Message File
IGBPUTIL_25721.t	ASCII	smf/sarb	Toolkit Message File
PGS_25721[1]	ASCII	PGS_message/sarb	Toolkit Message File
INITSARB_25701.t	ASCII	smf/sarb	Toolkit Message File
PGS_25701[1]	ASCII	PGS_message/sarb	Toolkit Message File
MSFCALBIO_25722.t	ASCII	smf/sarb	Toolkit Message File
PGS_25722[1]	ASCII	PGS_message/sarb	Toolkit Message File
PGS_INGEST_25702.t	ASCII	smf/sarb	Toolkit Message File
PGS_25702[1]	ASCII	PGS_message/sarb	Toolkit Message File
PGS_SIGMALOAD_25703.t	ASCII	smf/sarb	Toolkit Message File
PGS_25703[1]	ASCII	PGS_message/sarb	Toolkit Message File
PGS_TUNEDRV_25704.t	ASCII	smf/sarb	Toolkit Message File
PGS_25704[1]	ASCII	PGS_message/sarb	Toolkit Message File
PGS_FLXRANGE_25705.t	ASCII	smf/sarb	Toolkit Message File

Table C.2-3. Status Message Files (SMF)

File Name	Format	Directory	Description
PGS_25705[1]	ASCII	PGS_message/sarb	Toolkit Message File
PGS_FLMODEL_25706.t	ASCII	smf/sarb	Toolkit Message File
PGS_25706[1]	ASCII	PGS_message/sarb	Toolkit Message File
SARBMETA_25726.t	ASCII	smf/sarb	Toolkit Message File
PGS_25726[1]	ASCII	PGS_message/sarb	Toolkit Message File
PGS_MODISAERRD_25751.t	ASCII	smf/sarb	Toolkit Message File
PGS_25751	ASCII	PGS_message/sarb	Toolkit Message File
SARBIOUTIL_25750.t	ASCII	smf/sarb	Toolkit Message File
PGS_25750	ASCII	PGS_message/sarb	Toolkit Message File
PGS_SFCALBCALC_25707.t	ASCII	smf/sarb	Toolkit Message File
PGS_25707[1]	ASCII	PGS_message/sarb	Toolkit Message File
PGS_SFCALBINGEST_25708.t	ASCII	smf/sarb	Toolkit Message File
PGS_25708[1]	ASCII	PGS_message/sarb	Toolkit Message File
PGS_DERIVLOAD_25709.t	ASCII	smf/sarb	Toolkit Message File
PGS_25709[1]	ASCII	PGS_message/sarb	Toolkit Message File
PGS_WRAPSARB_25710.t	ASCII	smf/sarb	Toolkit Message File
PGS_25710[1]	ASCII	PGS_message/sarb	Toolkit Message File
INITSYN_26003.t	ASCII	smf/sarb	Toolkit Message File
PGS_26003	ASCII	PGS_message/sarb	Toolkit Message File
REGDRV_26005.t	ASCII	smf/sarb	Toolkit Message File
PGS_26005	ASCII	PGS_message/sarb	Toolkit Message File
TSIRET_26004.t	ASCII	smf/sarb	Toolkit Message File
PGS_26004	ASCII	PGS_message/sarb	Toolkit Message File
WRAPSYN_26006.t	ASCII	smf/sarb	Toolkit Message File
PGS_26006	ASCII	PGS_message/sarb	Toolkit Message File

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

C.3 Ancillary Input Data

The Synoptic SARB Subsystem accesses several ancillary input data files. Some of these files are shared with the Instantaneous SARB Subsystem , and are located in the **$CERESHOME/sarb/ancillary/MATCH** directory. Ancillary input data files only accessed by the Synoptic SARB Subsystem PGE CER7.2.1P1 are located in the **$CERESHOME/sarb/ancillary/CER7.2.1P1** directory.

Table C.3-1. Ancillary Input Data

File Name	Format	Description	Static/Dynamic
SS5_DrivTab_19990315	Binary	Derivative tables	Static
IGBP_Ver3.0	Binary	IGBP map	Static
SigTab_Synoptic_20040730	ASCII	Sigma tables	Static
ControFile_20070920	ASCII	Drives selection of data sources based on specified record conditions	Static
SS5_ZJin_OcnAlb_20011218	Binary	Coefficients for Zhonghai Jin surface albedo over ocean retrieval	Static
flsa0404_lut.2s.coef	Binary	Surface Albedo look up table for Fu-Liou model	Static
flsa3_lut.4s.coef_19991215	Binary	Surface Albedo look up table for Fu-Liou model	Static
flsa4_lut.2s.coef_19991215	Binary	Surface Albedo look up table for Fu-Liou model	Static
flsa200508c.fubin.tab	Binary	Surface Albedo look up table for Fu-Liou model	Static
SAH.v5.yyyymm (in sahmaps)	Binary	Surface albedo history look up tables	Static
MATCH_TERRA_AOTS_CLIM_ MODIS.mm (in MATCH path)	Binary	Match climatology data for Terra processing	Static
MATCH_TERRA_AOTS_MODIS.yyyy mmdd (in MATCH path/)	Binary	Match aerosol data for Terra processing	Static
MATCH_TERRA_VERTICAL_MODIS. yyyymmdd (in MATCH path/)	Binary	Match aerosol profile data for Terra processing	Static
chlor_clim.mm (in ancillary/CER7.2.1P1/chlor_clim)	Binary	Seasonal climatology of chlorophyll used as an input to the Z. Jin Ocean spectral surface albedo	Static

Table C.3-1. Ancillary Input Data

File Name	Format	Description	Static/Dynamic
indxs_nesds.dat (in ancillary/CER7.2.1P1/iceage)	Binary	Monthly chlorophyll based on seawifs data	Static
seawifs_chlor.yyyymm (in ancillary/CER7.2.1P1/seawifs)	Binary	Monthly chlorophyll based on seawifs data	Static
zjin.ice.bin.1 (in ancillary/CER7.2.1P1/zjin)	Binary	Ice look up tables of Zhonhai Jin's spectral surface albedo	Static
zjin.snow.bin.1 (in ancillary/CER7.2.1P1/zjin)	Binary	Snow look up tables of Zhonhai Jin's spectral surface albedo	Static
zjin_ocean_feb04.bin (in ancillary/CER7.2.1P1/zjin)	Binary	Ocean look up tables of Zhonhai Jin's spectral surface albedo	Static
Sitelist.txt	ASCII	List of sites included in Subset SYN product	Static

C.4 Output Temporary Data Files (Production Results)

Table C.4-1. Output Temporary Data Files

File Name	Format	Description
CER_SARBCRH_Terra-Aqua-MODIS_SSIT_999999.200407Z090[1]	ASCII	Temporary data file created during execution of PGE 7.2.1P1

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