

Notes for the September 18, 2013, CERES Processing Oversight Board Meeting

Meeting began at 1:00 p.m. in the Business Development conference room at SSAI.

Meeting Notes

There were no comments or questions on the notes from the last meeting.

Announcements

CERES STM October 29 – 31, 2013, at the Scripps Institute in San Diego, CA

SCCR Discussion (SCCRs that have been submitted or updated since the last meeting)

CATALYST 937 – Updated SCCR to include new JIRA tickets that have been addressed recently.

ERBE-like 983 – Adding Edition4 option to CER2.4P1.

Inversion 984 – Replacing the check for time differences between SSFs and IESs with checking scan and sample number.

There were no issues identified, so these SCCRs will be approved.

CATALYST Testing Status

Restarted CATALYST server yesterday after the *AMI-P* upgrade was finished. Submitted a two-day test this morning to ensure everything still works with the new upgrades. This test includes running the wrapper script. The rest of the test PRs will be submitted after these tests complete successfully. Two Clouds test PRs need to be approved before they can be submitted.

Production Processing Status

Expect delivery of Terra Edition4 gains and SRFs early next week.

System Status

AMI-P upgrades are complete. *ab01* was not upgraded during this maintenance period.

Building storage over the next few weeks that will be installed by the end of the year.

Status of Open SCCRs

962 – No updates.

937 – CATALYST is being tested in the PPE.

984 – Planning to deliver this week.

981 – Will be promoted before the next round of production.

982 – No updates.

983 – Planning to deliver this week.

919 – Need ~10 days from today to recreate and redeliver expected output. Updated scripts will also be delivered.

940 – Testing possible changes to the narrowband-to-broadband code in an attempt to recover some of the land footprints that are being removed by the code. New target delivery date is October 4.

960 – New target delivery date of November 1st.

959 – New target delivery date of November 29th.
973 – On target for October 25th delivery.
979 – Ready to deliver.
974 – This delivery may not be needed so the delivery date is changing to TBD.
975 – Ran 5.1P2 on *AMI*. Investigating differences between *AMI* output and *magneto* output.
Delivery date is still good.

CC Presentation

Lisa presented “CERES CC Numbers Edition3 and Beyond”. The presentation is attached to these notes.

Hot Box

Item 1: Definition and implementation of Configuration Codes

A meeting will be held with representatives from each subsystem to discuss any outstanding items on this topic.

Item 2: Wrapper scripts

Tonya gave a presentation on the “Use of SIT/Production Wrapper Scripts”. The presentation is attached to these notes.

Meeting ended at 1:58 p. m.

CERES CC Numbers Edition3 And Beyond

September 18, 2013

Lisa Coleman

CPOB Presentation

Background – CERES Filename Conventions

- As decreed by the Systems Engineering Committee (SEC) prior to the TRMM launch - The standard file naming convention of products generated by the CERES Production System is the following:

“CER”_ProdID_SamplingStrategy_ProductionStrategy_ConfigurationCode.Instance

- All but the 1st two components vary for each product
- The Sampling Strategy is a composite of text strings indicating the source of the external data used as input to the output product
- The Production Strategy is consistent throughout a data set
- The Configuration Code can change multiple times in a data set as a result of changes to scripts or the operational environment
- All products generated by the CERES Production Processing System follow this convention for naming files
- Hundreds of scripts in the production environment at the ASDC are built around this convention. These scripts generate, archive, and retrieve data.
- Users have been receiving data from CERES that follow this convention since CERES TRMM products were distributed

Changes from Edition2 Strategy

- Reset values to 300300 at the beginning of processing (for most PGEs – Instrument, ERBE-like began Edition3 processing a little too soon)
- Made the 3 leftmost digits indicators of external data source, and the 3 rightmost digits indicators of CERES source code modifications
- No bumps for delta script-only deliveries – so far no external input data change has only required a script change
- Attempting “one CC number for all products in a suite” approach
- CC number assignments are dataset-based in addition to being PGE-based, i.e., if a PGE generates products for multiple datasets, each dataset could have a different CC number
- These changes provide a little more order to the chaos
- These changes have been effective in large part due to increased software stability associated with a reprocessing effort

First 3 Digits – Edition3 Publicly Available Products

- The first, or leftmost, three digits indicate something about a major input data set.
- Idea came from another project – GMAO has the 100 series, the 200 series, etc., to distinguish between output resulting from reprocessing and forward processing
- External input data source consistent (so far) throughout Edition3 data record for Instrument and ERBE-like products
- Changes to external input sources, or highly significant changes to other major input, for Edition3A SSF-based CERES products (so far):
 - MODIS Collections for Clouds properties
 - GMAO 4 to GMAO 5
 - Edition2 IES to Edition1-CV IES (not an external input change)

External Input Product - Definition

From the viewpoint of the CERES production processing system, external input data are input data that are received from a source outside of the CERES processing system and ingested by ASDC staff upon receipt from the source. The following input data products are considered to be major input products from external providers:

- Level 0 input to the Instrument subsystem
- Snow and ice data from providers such as NSIDC
- Cloud imager data
- Meteorological data from providers such as GMAO

Internal Input Product - Definition

From the viewpoint of the CERES production processing system, internal input data are input data produced within the CERES processing system. These input data are either produced in the production environment using software developed by the CERES Team, or in the SCF and delivered to the production environment by the responsible subsystem team.

Edition3A SSF Major Inputs

1 st 3 CC Digits	Dates	MODIS Collection	GMAO	IES
300	Launch – April 2006 (Terra overlap with 301 thru July 2006)	4	4	Edition2
301	May 2006 – November 2007	5	4	Edition2
302	December 2007 – June 2010	5	5	Edition2
303	July 2010 forward	5	5	Edition1-CV
304 ??	MODIS Collection 6 ??? No discussion to date on CERES Edition3 and use of MODIS Collection6	6	5	Edition1-CV

First 3 Digits – Other Products

Follow same logic as SSF-based products

- Example 1: Clouds Snow and Ice and Edition1-CV SSF
 - Once on AMI, set CC to 200200. At the same time, the external snow and ice inputs also changed.
 - Impacted Clouds Ed1-CV, so the output CC bumped to 201200 for Clouds Ed1-CV products and Inversion Ed1-CV products
- Example 2: GGEOW Files
 - Weeder input files produced on SCF and delivered to ASDC as input to PGE 11.6P1
 - Initial Edition3A files set output CC to 300300.
 - A redelivery of weeder files set output CC to 301300

Second 3 Digits

- The second, or rightmost, three digits indicate an internal CERES software (source code) change
- Has not worked out to have same CC number for ALL of the CERES products for a given date
- Approach of trying to have “product suites” with the same CC number. Examples:
 - Ed3A SSF, SFC, SAH (Cloud input, single satellite – each satellite could have a different CC number)
 - TSI, SYNI, SYN1deg suite (multi-satellite)
 - IES, BDS, ES8, ES4, and ES9 (no Cloud input)
 - Edition1-CV Clouds and Inversion

“Product Suite”

- Definition – a grouping of CERES products based on similarities in product level, sampling strategy, and major input data. The products in a suite tend to process in the same batches.
- Not based on any industry standard. Decided on by the CERES team strictly for convenience when assigning CC numbers
- Currently 26 separate suites have been defined
- Benefits:
 - Some commonality in CC numbers helps link the products together in the minds of the team
 - Fewer CC numbers for team members to keep track of for the whole CERES processing system

Product Suite Examples

- Terra/Aqua Baseline1-QC, Edition1-CV, and Edition3 BDS, IES, ES8, ES4, and ES9.
Commonality in use of no imager data – CERES data only
- Terra Edition3A SSF, SFC, and SAH. Commonality is single CERES satellite and use of imager data
- Terra+Aqua Edition3A TSI, SYNI, and SYN1deg.
Commonality is merged data from multiple CERES satellites and use of imager data
- MOA – single product suite

Product Suite CC Numbers Example

Family ID:	11	12	13	14	15	16	17
Satellite / Instrument:	Terra+Aqua	Terra, Aqua	Terra, Aqua	Terra+Aqua	N/A	Terra, Aqua	NPP-VIIRS
Output Production Strategies:	Edition3A	Edition3A	Edition3A	Edition3A	Edition3A	Edition4A	Edition1A
Output Products:	TSI, SYN1, SYN1deg	SSF1deg	ISCCP-D2like-Day/Nit	ISCCP-D2like-Mrg	ISCCP-D2like-GEO	SSFi, SSF, CRS, SFC	SSFi, SSF, CRS
PGE ID:							
CER4.5-6.2P4							
CER4.5-6.4P1							
CER4.5-6.4P2						400401	
CER4.5-6.5P4							
CER4.5-6.5P5							
CER5.0P2							
CER5.1P1							100100
CER5.1P2							
CER5.1P3						40040x	
CER5.4P1							
CER5.4P2							
CER7.3.1P1	303304						
CER7.2.1P1	303304						
CER8.1P1	303304						
CER9.0P1			300300				
CER9.0P2				300301			
CER9.0P3				300301			
CER9.0P4							
CER9.0P5							
CER9.1P1							
CER9.2P2							
CER9.2P3						40040x	
CER9.3P2							
CER9.3P3						40040x	
CER9.4P2							
CER9.4P3						40040x	
CER10.0P3	303304						
CER10.0P4		30x300					
CER11.							
CER11.6P1							
CER11.7P1					300300		
CER12.1P1							

Out of Sync CC Numbers Within a Suite or Very Closely Related Suites

- Typically, the last three digits of CC numbers are incremented by 1 when it is time to increment
- HOWEVER - Edition3A Terra SSFs ended up with different numbers than the Aqua SSFs for some of the same months. At some point it became reasonable to increment the CC by 1 for one satellite, and by 2 for the other so that they were again the same
- When an emergency reprocessing that begins “mid-suite” is required, the CC numbers within a product suite will get out of sync (e.g., the SYNI for 5/12 forward). At the next reasonable opportunity, assign consistent CC numbers for all products in suite – may need to increment the CC number for some products by more than 1 in such a case.
- Usually do not want to reprocess products just for the sake of synchronizing the CC numbers

Impacts of Changing CC Numbers

- Changes in CC numbers are necessary and accepted, but not without some impacts
- Requires new PRs to be written for the PGEs producing a product, as well as the PGEs using that product as input
- Impacts SIT-developed scripts for same PGEs
- Writing new PRs means reviewing new PRs
- More information to keep track of
- Product users have to adjust their software also

Going Forward to Edition4. And, Edition1 for NPP

- CC numbers initialized at 400400 for Terra and Aqua, and at 100100 for NPP Edition1
- New: A single version of a single PGE may be generating products for multiple Editions. The last 2 digits of the CC number will be consistent across the different Editions, i.e., If same version of same PGE is used:
 - Terra/Aqua Edition3 BDS CC = 300304
 - Terra/Aqua Edition4 BDS CC = 400404
 - NPP Edition1 BDS CC = 100104

Near-Term Action Items

- Settle on product suites
- Identify input products that can instigate CC number bumps
- Put all of this into a document

USE of SIT/Production Wrapper Scripts

1. Review Operator's Manual : determine if there are any changes with environment variables that may required updates to the scripts
2. Open/Review PR and insert CC, PS, SS corrections if needed
3. There are basically 2 scripts that may require updates. 1) the wrapper script (example: ERBEss2_CER2.3P2_exec)– that provides information to the operator about how the job can be submitted (Rarely Updated) and 2) the environment file (CER2.3P2-env.csh) – copied from the delivered wrapper script (includes PR specific information
4. Edit Review Wrapper Script (if it exists) – Add month, CC information

NOTES:

- Prior to AMI-P, SSIT scripted input data checks. This process was used since the LaTIS days. Upon moving to ami-p, the input data checks were removed and the driver scripts/pge handles input verification.
- All scripts are available for viewing in the production and test areas on ami-p
 - Production: /SPG_ops/CERES/ceresprd/{subsystem}
 - Testing: /SPG_ops/SSIT/CERES/cerestst
- The scripts are identified as follows:
 - Script for wrapper submission has an _exec extension Subsystem_PGE_exec
 - Example: ERBEss2_CER2.3P2_exec
 - Script for environment variables has a .csh extension
 - Example: CER2.3P2-env.csh

4.2 Operating Environment

4.2.1 Runtime Parameters (List all dynamic parameters needed at runtime.)

The runtime parameters of PGE CER2.3P2 are relative to a target processing month in that for a given month, PGE CER2.3P2 supplies overlap data from the last day of the month previous to the target processing month. Therefore, where the descriptions "CERDataDateYear" and "CERDataDateMonth" are used, these descriptions will refer to the month and year of data for the target processing month.

Table 4-3. Runtime Parameters for CER2.3P2

Parameter ^a	Description	Valid Values
yyyy	4-digit Year corresponding to the month before the CERDataDateMonth	>= 1984
mm	2-digit Month before CERDataDateMonth	01 .. 12
dd	Last day (2-digit) of the month before CERDataDateMonth	28 .. 31
snow	Type of input snow file "Actual" or "Composite"	"A" or "C"
adm	Original or New Angular Directional Model structure	"F" or "N"
spcor	Original, Slope Intercept Spectral Correction Algorithm, or Instrument Team's modified input for the Slope Intercept Spectral Correction Algorithm.	"F", "N", "D", or "M"
swoff	Type of SW Offset "Day/Night", "Thermal", "No offsets", or "Edition3 corrections"	"D", "T", "Z", or "K"

a. All character strings.

4.2.2 Environment Script Requirements

Refer to the CERES internal paper (Reference 3) for a detailed description of the CERES environment parameters. For the current values of the Sampling Strategy and Production Strategy variables listed below, see "CERES DMT to DAAC Processing Request." (URL: <http://asd-www.larc.nasa.gov/ceres/dmt2daac/>)

One environment script is required. It is named 'ENVerbelike-env.csh' and contains the following parameters:

SS1 - Sampling Strategy for CER1.2P1, see Production Request (Reference 4)
 SS2_1 - Sampling Strategy for CER2.1P1, see Production Request (Reference 4)
 SS2 - Sampling Strategy for CER2.2P1, see Production Request (Reference 4)
 PS1 - Production Strategy for CER1.2P1, see Production Request (Reference 4)
 PS2_1 - Production Strategy for CER2.1P1, see Production Request (Reference 4)
 PS2_4 - Production Strategy for CER2.4P1, see Production Request (Reference 4)
 PS2 - Production Strategy for CER2.2P1, see Production Request (Reference 4)
 CC1_2 - Configuration Code for CER1.2P1, see CM Database

CC2_1 - Configuration Code for CER2.1P1, see CM Database
 CC2_4 - Configuration Code for CER2.4P1, see CM Database
 CC2 - Configuration Code for CER2.2P1, see CM Database
 SAT - Satellite, see Production Request (Reference 4)
 IMAG - Imager, see Production Request (Reference 4)
 INST - Instrument, see Production Request (Reference 4)

4.2.3 Execution Frequency (daily, hourly,..)

monthly (1/month) - This PGE, along with PGE CER2.3P1, is to be processed once per month, immediately before PGE CER3.1P1.

4.2.4 Memory/Disk Space/Time Requirements

Memory: 5.3 MB
 Disk Space: 13 MB
 Total Run Time: 1:05 minutes

4.2.5 Restrictions Imposed in Processing Order

Relative to the target PGE CER3.1P1 data date, this PGE depends on the last day of the previous month. For the input requirements (see Section 4.3).

4.3 Processor Dependencies (Previous PGEs, Ingest Data,..)

Note: Include all required inputs such as .met files, header files, etc.

4.3.1 Input Dataset Name (#1): preES-8

- a. Directory Location/Inputs Expected (Including .met files, header files, etc.):

**\$CERESHOME/instrument/data/out_comp/CER_PRES8_\$\$S1_\$PS1_\$CC1_2.yy
yymmdd**

1. Mandatory/Optional: **This file is mandatory.**
 2. Time Related Dependency: **The data date must match the runtime parameters:
yyyy, mm, dd.**
 3. Waiting Period: **None, process when all input data are available.**
- b. Source of Information (Source is PGE name or Ingest Source):
- Source PGE: CER1.2P1**
- c. Alternate Data Set, if one exists (maximum waiting period):
- Reprocessing ERBE data using the ERBE S-8, Section 4.3.2.**
- d. File Disposition after successful execution: **Do not remove until monthly processing (Subsystem 3.0) is complete. The file for "the last day of the month" cannot be removed until the monthly processing of the following month is complete.**
- e. Typical file size (MB): **283**

Delivered
ENV
Script
(Sample)

```
'SS2'    => $ENV{'SS2'},
'PS2_4'  => $ENV{'PS2_4'},
'CC2_4'  => $ENV{'CC2_4'},
'CC2_4'  => $ENV{'CC2_4'},
'PS2'    => $ENV{'PS2'},
'CC2'    => $ENV{'CC2'},
'SW2'    => $ENV{'SW2'},
'DATA2'  => $ENV{'DATA2'},
'PGEtype' => "monthly",
'SS_out' => $ENV{'SS2'},
'PS_out' => $ENV{'PS2'},
'CC_out' => $ENV{'CC2'},
'PGE'    => 'CER2.3P2',
'ERBELIKEHOME' => $ERBELIKEHOME,
'platform' => 'p6,x86',

'executables' =>
"$serbelike/bin/CER2.2P1_inv_ppc64.exe,$serbelike/bin/CER3.1P1_ddbint_ppc64.exe,$serbelike/bin/CER3
.1P1_ddb
upd_ppc64.exe,".

"$serbelike/bin/CER2.2P1_inv_x86_64.exe,$serbelike/bin/CER3.1P1_ddbint_x86_64.exe,$serbelike/bin/CE
R3.1P1_d
dbupd_x86_64.exe",

'sgelogdir' => "$serbelike/sge_logs/CER2.3P2",
'pcfdir'   => "$serbelike/CER2.3P2/rcf/pcf"

);

$CER23{'runlogdir'} = $CER23{'logdir'}; #newly added for CERES::AJSS_ENV
```



```
'SCCDdir' => $SCCDdir,  
'SCCNdir' => $SCCNdir,  
'logdir' => "$Serbelike/runlogs/CER2.3P2",  
'InputArchive'=> $InputArchive,  
'InputArchiveSS'=> $InputArchiveSS,  
'InputArchiveInt'=> " ", #newly added for CERES::AJSS_ENV  
'inpdire' => $inpdire,  
'cmgsxdir' => "$Serbelike/data/CERES/CMGSX/$ENV{'SS2'}_$ENV{'PS2'}",  
'cqcdire' => "$Serbelike/data/CERES/CQCD/$ENV{'SS2'}_$ENV{'PS2'}",  
'cxdrdire' => $cxdrdire,  
'eid6xdir' => "$Serbelike/data/CERES/EID6X/$ENV{'SS2'}_$ENV{'PS2'}",  
'cqcxdir' => "$Serbelike/data/CERES/CQCIX/$ENV{'SS2'}_$ENV{'PS2'}",  
'admdire' => "$Serbelike/ancillary/CER2.2P1/Inversion/ADMparameters",  
'toldire' => "$Serbelike/ancillary/CER2.2P1/Inversion/Tolerances",  
'scnidire' => "$Serbelike/ancillary/CER2.2P1/Inversion/ERBEscnID",  
'snowcompdire' => "$Serbelike/ancillary/CER2.1P1/SNOWcomposite",  
'snowdyndire' => $snowdyndire,  
'SAT' => $ENV{'SAT'},  
'INST' => $ENV{'INST'},  
'SS1' => $ENV{'SS1'},  
'PS1_0' => $ENV{'PS1_0'},  
'CC1_2' => $ENV{'CC1_2'},  
'SS2_1' => $ENV{'SS2_1'},  
'PS2_1' => $ENV{'PS2_1'},  
'CC2_1' => $ENV{'CC2_1'},
```

Delivered

ENV

Script
(SAMPLE)

SAMPLE

CER 2.3f2-env.csh

```
endif

setenv SS2_1      CERES
setenv PS2_1      NSIDC

#Sampling Strategy for CER2.1P1
#Production Strategy for CER2.1P1

if ($year < 2003) then
    setenv CC2_1 022019
endif

if ($year == 2003) then
    if ($month <= 4) then
        setenv CC2_1 022019
    endif
endif

if ($year == 2003) then
    if (($month == 5) || ($month == 6)) then
        setenv CC2_1 024021
    else
        setenv CC2_1 024022
    endif
endif

if ($year == 2003) then
    if ($month >= 7) then
        setenv CC2_1 024022
    endif
endif

if ($year == 2004) then
    if (($month == 1) || ($month == 2)) then
        setenv CC2_1 025023
    endif
endif

if ($year == 2004) then
    if ($month >= 3) then
        setenv CC2_1 025024
    endif
endif

if ($year == 2005) then
    setenv CC2_1 025025
endif

if ($year == 2006) then
    setenv CC2_1 025025
endif

if ($year == 2007) then
    setenv CC2_1 025026
endif

if ($year == 2008) then
    setenv CC2_1 025026
endif

if ($year == 2009) then
    if ($month <= 8) then
        setenv CC2_1 025026
    endif
endif

if ($year == 2009) then
    if ($month >= 9) then
        setenv CC2_1 025027
    endif
endif

if ($year == 2010) then
    if ($month <= 8) then
        setenv CC2_1 025027
    else
        setenv CC2_1 300300
    endif
endif
```

#Yrs. 2000-2002 input data check

#Jan-Apr 2003 input data check

#May-Jun input data check

#Jul-Dec input data check

#Jan-Feb 2004 input data check

#Mar-Dec 2004 input data check

#Yr. 2005 input data check

#Yr. 2006 input data check

#Jan 2007 input data check

#Yr. 2008 input data check

#Jan-Aug 2009 input data check

#Sept-Dec 2009 input data check

#Jan-Aug 2010 input data check

From: Angel D Cross <adcross@ami-p.larc.nasa.gov>
Date: 9/18/13 11:26 AM
To: <angel.d.cross@nasa.gov>

AMI-P
Exec Script

```
#!/bin/tcsh -f
#####
#
#   This script is used to submit the Monthly Overlap Processor for
#   FAPS+RAPS data from the Last Day of the Previous Month (2.3P2).
#
#   Command Line Parameters
#   $1      satellite   (PFM, FM1, FM2, FM3, FM4, or FM5)
#   $2      runtype     (S = Single; M = Multiple Run)
#   $3      pmode       ('A' - actual or 'C' - composite)
#   $4      spcorm       ('N' - Newer Slope Intercept Spectral Correction Algorithm
#                        'M' - Monthly Spectral Response Function and Correction Algorithm)
#
#   $5      data_type   A - AtLaunch
#                        B - Baseline1-QC
#                        C - CoversClosed
#                        E1 - Edition1-CV (Ed1-CV-NoSW)
#                        E2 - Edition2 (Ed2-NoSW)
#                        E3 - Edition3 (Ed3-NoSW)
#                        P - PreLaunch
#                        V - ValRx (1..n)
#   $6      yyyy        (year)
#   $7      mm          (month)
#                        ssit/oper (flag used only running ssit/oper. testing)
#                        test      (used for appending -test to the production strategy)
#
#   ex:      ERBEss2_CER2.3P2_exec FM1 S A M E2 2010 03 (Single Run)
#            ERBEss2_CER2.3P2_exec FM1 M A M V 2010 03 2010 05 (Multiple Run)
#
# History
#
# $RCSfile: ERBEss2_CER2.3P2_exec,v $
# $Revision: 1.2 $ $Date: 2011/10/20 17:55:37 $
# $State: Exp $
# $Log: ERBEss2_CER2.3P2_exec,v $
# Revision 1.2 2011/10/20 17:55:37 adcross
# Updated scripts to process on ami-p for SCCR740 delivery. This is the
# first time ERBELike has processed on ami-p.
#
# Revision 1.1 2011/10/20 17:55:12 adcross
# Initial revision
#
#####
##### SETUP FOR PROCESSING #####
#change into the home directory of algorithm
cd $CERESHOME/erbelike/CER2.3P2/rcf/

#####
#####VALIDATE ARGUMENTS#####
#
# validate arguments
#
```

```

set satellite = $1
set runtype = $2
set pmode = $3
set spcorm = $4
set data_type = $5

if ($runtype == 'S') then
if ($#argv < 7) then
echo "#####"
echo "@
echo "@          MISSING ARGUMENTS          @"
echo "@          MUST AT LEAST HAVE THE FOLLOWING:          @"
echo "@  satellite runtype pmode spcorm data_type yyyy mm  @"
echo "@
echo "#####"
echo ""
echo "Exiting script..."
echo ""
exit
endif

set month = $7
set month = `echo $7 | sed s/^0//`
if (($month > 12) || ($month < 1)) then
echo "#####"
echo "@
echo "@          MONTH OUT OF RANGE          @"
echo "@
echo "#####"
echo ""
echo "Exiting script..."
echo ""
exit
endif

set year = $6
if (($year > `date +%Y`) || ($year < 1)) then
echo "#####"
echo "@
echo "@          YEAR OUT OF RANGE          @"
echo "@
echo "#####"
echo ""
echo "Exiting script..."
echo ""
exit
endif

if (($pmode != 'C') && ($pmode != 'A')) then
echo "#####"
echo "@
echo "@          COMPOSITE or ACTUAL          @"
echo "@          MUST BE SPECIFIED          @"
echo "@          (C or A)          @"
echo "@
echo "#####"
echo ""
echo "Exiting script..."
echo ""
exit

```



```

        echo "Exiting script..."
        echo ""
        exit
    endif
endif

#
#will append production strategy with -QC if Composite run
#
if ($pmode == 'C') then
    setenv PS2      Baseline1\ -QC
endif

if (($spcorm != 'N') && ($spcorm != 'M')) then
    echo "aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa"
    echo "@                @"
    echo "@      Daily or Monthly      @"
    echo "@      Spectral Correction    @"
    echo "@      MUST BE SPECIFIED      @"
    echo "@      (N or M)               @"
    echo "@                @"
    echo "aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa"
    echo ""
    echo "Exiting script..."
    echo ""
    exit
endif

#####
#####SET ENVIRONMENT VARIABLES#####
#
# set flags to false (default)
#
set SSIT=false
set OPER=false
set TEST=false
set PFM=false
set FM1=false
set FM2=false
set FM3=false
set FM4=false
set FM5=false
#
# for each extra parameter on the command line
# set the corresponding flag to true
#
if ($runtype == 'S') then
set first_opt_arg = 7
foreach input ($argv[$first_opt_arg-$#argv])

    if ($input == 'ssit') then
        set SSIT=true
    else if ($input == 'oper') then
        set OPER=true
    else if ($input == 'test') then
        set TEST=true
    endif
end
endif

if ($runtype == 'M') then

```



```
set first_opt_arg = 9
foreach input ($argv[$first_opt_arg-$#argv])
```

```
    if ($input == 'ssit') then
        set SSIT=true
    else if ($input == 'oper') then
        set OPER=true
    else if ($input == 'test') then
        set TEST=true
    endif
end
endif
```

```
#####
# Operational and Production Run
```

```
    if (($OPER == 'true') || ($SSIT == 'true')) then
        source $CERESHOME/cerestst/ceres-env_ppc64.csh
        source $CERESHOME/cerestst/erbelike/CER2.3P2-env.csh
    else
        source $CERESHOME/ceresprd/ceres-env_ppc64.csh
        source $CERESHOME/ceresprd/erbelike/CER2.3P2-env.csh
    endif
```

```
##### Append Zero to Months One thru Nine #####
```

```
if ($month < 10) then
    set month = "0$month"
endif
```

```
#####
#####
```

```
if (($SSIT == 'true') || ($OPER == 'true')) then
    echo "This is an SSI&T / Operational Run"
else
    echo "This is a Production Run"
endif
```

```
#####
#####PROCESS PGE#####
#
```

*Input Check
Controlled By
Driver Script*

```
#Run this line for Edition2 comparisons
```

```
if ($runtype == 'S') then
if ($spcorm == 'M') then
    if ($data_type == 'E2') then
        CER2.3P2-SGE_Driver.pl -d $year$month -- $pmode F $spcorm T
    endif
endif
endif
```

```
#Run this line for Edition3 comparisons
```

```
if ($runtype == 'S') then
if ($spcorm == 'M') then
    CER2.3P2-SGE_Driver.pl -d $year$month -- $pmode F $spcorm K
endif
endif
```

```
#Run this line when output from CER2.4P1 is not available
```

```
if ($runtype == 'S') then
if ($spcorm == 'N') then
    CER2.3P2-SGE_Driver.pl -d $year$month -- $pmode F $spcorm T
endif
```

*CALL to
ENVIRONMENT
SCRIPT*

```
endif
```

```
if ($runtype == 'M') then
```

```
  if ($spcorm == 'M') then
```

```
    if ($data_type == 'E2') then
```

```
      CER2.3P2-SGE_Driver.pl -s $year$month -e $year2$month2 -- $pmode F $spcorm T
```

```
    endif
```

```
  endif
```

```
endif
```

```
if ($runtype == 'M') then
```

```
  if ($spcorm == 'M') then
```

```
    CER2.3P2-SGE_Driver.pl -s $year$month -e $year2$month2 -- $pmode F $spcorm K
```

```
  endif
```

```
endif
```

```
if ($runtype == 'M') then
```

```
  if ($spcorm == 'N') then
```

```
    CER2.3P2-SGE_Driver.pl -s $year$month -e $year2$month2 -- $pmode F $spcorm T
```

```
  endif
```

```
endif
```

```
echo "Submitted PGE2.3P2\n"
```

```
# test for existence of SNOW input files
```

```
#
```

```
if ($pmode == 'A') then
```

```
  if ($month == 12) then
```

```
    set next_month = 01
```

```
  else
```

```
    @ next_month = $month + 1
```

```
    if ($next_month < 10) then
```

```
      set next_month = "0"$next_month
```

```
    endif
```

```
  endif
```

```
set input_file=$CERESHOME/erbelike/data/out_comp/CER2.1P1/SNOWmonthly/CER_SNOW_$$SS2_1\_PS2_1
```

```
\_CC2_1\_.$next_year$next_month
```

```
if (!( -s $input_file)) then
```

```
  echo "$input_file missing"
```

```
  echo "aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa"
```

```
  echo "@                                @"
```

```
  echo "@  PROCESSING CANNOT COMPLETE  @"
```

```
  echo "@  MANDATORY DATA MISSING    @"
```

```
  echo "@                                @"
```

```
  echo "aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa"
```

```
  echo ""
```

```
  echo "Exiting Script..."
```

```
  echo ""
```

```
  exit
```

```
endif
```

```
endif
```

```
if ($spcorm == 'M') then
```

```
set input_file1=$CERESHOME/erbelike/data/ancillary/dynamic/CER_SCCD_$$SS2\_PS2_4
```

```
\_CC2_4.$year$month\15
```

```
set input_file2=$CERESHOME/erbelike/data/ancillary/dynamic/CER_SCCN_$$SS2\_PS2_4
```

```
\_CC2_4.$year$month\15
```

```
if (!( -s $input_file1) || !( -s $input_file2)) then
```

```
  echo "$input_file1 or $input_file2 missing"
```

```
  echo "aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa"
```

```
  echo "@                                @"
```

```
  echo "@  PROCESSING CANNOT COMPLETE  @"
```

```
  echo "@  MANDATORY DATA MISSING    @"
```

```
  echo "@                                @"
```

```
  echo "aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa"
```

```
  echo ""
```

```
  echo "Exiting Script..."
```

```
  echo ""
```

```
  exit
```

```
endif
```

```
endif
```

```
#####
```

```
#####PROCESS PGE#####
```

```
#
```

```
# if not already processed, then process
```

```
#
```

```
if ( -s $OUT_file) then
```

```
  echo "This data has already been processed."
```

```
  exit
```

```
endif
```

```
# create output file
```

Magneto
Input
Data Checks