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CERES Metadata Requirements for LaTIS

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1.0 Purpose

This document describes the Langley TRMM Information System (LaTIS) Processing System metadata requirements in support of the CERES Tropical Rainfall Measuring Mission (TRMM) data processing at the Distributed Active Archive Center (DAAC), Langley Research Center. The contents of the metadata are unique for each Output Data Product, although the 'Baseline' or 'Core' metadata attributes are shared by all Output Data Products, where applicable, reference computer bulletin 97-06 'CERES Metadata Approach' for further details. This is a living document which is expected to be modified based upon continuing LaTIS development, and through lessons learned in early operations of the science software.

Contents:

2.0 CERES Baseline Production Request Input

The following table of attributes will be the baseline input parameters which will be chosen at Production Request (PR) time. A subset of the PR parameters will be inserted into the Process Control File (PCF), indicated by (*) in the table. There may be other parameters needed by each Production Generation Executable (PGE), and these will be tailored for each respectively.

Table 1: CERES Baseline Production Request (PR) Input

Item	Source	Name	Data Type
1.	PR	PGEName*	s(20)
2.	PR	SamplingStrategy(Input)	s(20)
3.	PR	Sampling Strategy(Output)*	s(20)
4.	PR	ProductionStrategy(Input)	s(20)
5.	PR	ProductionStrategy(Output)*	s(20)
6.	PR	CERDataDateYear*	s(4)
7.	PR	CERDataDateMonth(If Applicable(I/A))*	s(2)
8.	PR	CERDataDateDay(I/A)*	s(2)
9.	PR	CERHrOfDay(I/A)*	s(2)
10.	PR	CERHrOfMonth(I/A)*	s(3)
11.	Look up table	ConfigurationCode*	s(5)
12.	Look up table	SWsccr#*	s(5)
13.	Look up table	AncillaryDATAsccr#*	s(5)
	PGE dependent	TBD	TBD

3.0 CERES Baseline Header Metadata

The following table describes the metadata that will be written on the CERES Header record for all output products. In order to read the table the following notations have been used:

* optional attributes and provided by subsystem software.
** required attributes and provided by subsystem software.

where: s = string, F = float, I = integer, datetime = yyyy-mm-ddThh:mm:ss.xxxxxxZ
Inv = Inventory Metadata, Arc = Archive Metadata, PSA = Product Specific Attribute

Table 2: CERES Baseline Header Metadata

Item	Source	Metadata Desc.	ECS Mapping	Data Type	Inv/Arc
1.	ESDT/MCF	Shortname	ShortName	s(8)	Inv
2.	ESDT/MCF	Version ID	VersionID	I3	Inv

Table 2: CERES Baseline Header Metadata

Item	Source	Metadata Desc.	ECS Mapping	Data Type	Inv/Arc
3.	Delivered to DAAC with PGE	PGEName	CERPGEName(PSA)	s(20)	Inv
4.	PCF	SamplingStrategy	SamplingStrategy(PSA)	s(20)	Inv
5.	PCF	ProductionStategy	ProductionStrategy(PSA)	s(20)	Inv
6.	PCF	CERDataDateYear	CERDataDateYear(PSA)	s(4)	Inv
7.	PCF	CERDataDateMonth	CERDataDateMonth(PSA)	s(2)	Inv
8.	PCF	CERDataDateDay	CERDataDateDay(PSA)	s(2)	Inv
9.	PCF	CERHrOfMonth	CERHrOfMonth(PSA)	s(3)	Inv
10.	PGE**	RangeBeginningDate	RangeBeginningDate	date	Inv
11.	PGE**	RangeBeginningTime	RangeBeginningTime	time	Inv
12.	PGE**	RangeEndingDate	RangeEndingDate	date	Inv
13.	PGF**	RangeEndingTime	RangeEndingTime	time	Inv
14.	PGE**	AutomaticQualityFlag	AutomaticQualityFlag	s(64)	Inv
15.	PGE**	AutomaticQualityFlagExplanation	AutomaticQualityFlagExplanation	s(255)	Inv
16.	PGE*	QAGranuleFilename	QAGranuleFilename(PSA)	s(255)	Inv
17.	PGE*	ValidationFilename	ValidationFilename(PSA)	s(255)	Inv
18.	wrapper	ECS BoundingRectangle (or GRing)	EastBoundingCoordinate	F11.6	Inv
19.			NorthBoundingCoordinate	F11.6	Inv
20.			SouthBoundingCoordinate	F11.6	Inv
21.			WestBoundingCoordinate	F11.6	Inv
22.		ECS GRing	GRingPointLatitude	F11.6	Inv
23.			GRingPointLongitude	F11.6	Inv
24.			GRingPointSequenceNo	I5	Inv
25.			ExclusionGRingFlag	s(1)	Inv
26.	wrapper	PlatformShortName	AssociatedPlatformShortName	s(20)	Inv
27.	wrapper	InstrumentShortName	AssociatedInstrumentShortName	s(20)	Inv

Table 2: CERES Baseline Header Metadata

Item	Source	Metadata Desc.	ECS Mapping	Data Type	Inv/Arc
28.	wrapper	ImagerShortName	ImagerShortName(PSA)	s(20)	Inv
29.	PCF	LocalGranuleID	LocalGranuleID	s(80)	Inv
30.	wrapper	LocalVersionID	LocalVersionID	s(60)	Inv
31.	wrapper	InputPointer	InputPointer	s(255)	Inv
32.	wrapper	PGEVersion	PGEVersion	s(10)	Inv
33.	PGE**	CERES BoundingRectangle	CEREastBoundingCoordinate	F11.6	Arc
34.			CERNorthBoundingCoordinate	F11.6	Arc
35.			CERSouthBoundingCoordinate	F11.6	Arc
36.			CERWestBoundingCoordinate	F11.6	Arc
37.		CERES GRing	CERGRingPointLatitude	F11.6	Arc
38.			CERGRingPointLongitude	F11.6	Arc
39.	wrapper	ProductionDateTime	CERProductionDateTime	datetime	Arc
40.	PGE*	NumberofRecords	NumberofRecords	I10	Arc
41.	wrapper	ProductGenerationLOC	ProductGenerationLOC	s(255)	Arc

4.0 CERES Baseline Header Metadata Definitions

This section defines the baseline metadata listed in Table 2. The metadata originates from one of the following:

MCF = Metadata Control File
PGE = Product Generation Executable (Processor)
PCF = Process Control File (read by the PGE)
wrapper = CERES library Module ‘meta_util’

4.1 Inventory Metadata (Items 1-32)

Collection Identification:

1. ESDT Shortname - as defined in the B0 ECS requirements using the CERES naming scheme for each Collection Level Product. Source: MCF, Data Type: (s8)
2. VersionID - as defined in the B0 ECS requirements using the CERES versioning scheme for each Collection Level Product. Source: MCF, Data Type: (I3)

3-9. Production Request (PCF) - LaTIS (? for B0)

3. CERPGEName(PSA): Each subsystem has been assigned a name for each respective PGE. This name will be embedded within the PCF, and will be the processor (PGE) identifier.(Ex. 6.1P1) Data Type: (s20)
4. SamplingStrategy(PSA): Derived from a LaTIS table at PGE request time, and used as a runtime parameter in the PCF. This is a description of the data source, which typically uses the satellite, instrument combination and imager source that contributes to the product. Valid Values: {CERES, TRMM-PFM-VIRS, AM1-FM1-MODIS} Data Type: (s20)
5. ProductionStrategy(PSA): Derived from a LaTIS table at PGE request time, and used as a runtime parameter in the PCF. Valid Values: {Edition, Campaign, DiagnosticCase, TBD} Data Type: (s20)
6. CERDataDateYear(PSA): Year date of data to be analyzed, entered at PGE request time, used as a runtime parameter in the PCF. Data Type: (s4)
7. CERDataDateMonth(PSA): Month date of data to be analyzed, entered at PGE request time, used as a runtime parameter in the PCF. Domain Values: {1..12} Data Type: (s2)
8. CERDataDateDay(PSA): Day date of data to be analyzed, entered at PGE request time, used as a runtime parameter in the PCF. Domain Values: {1..31} Data Type: (s2)
9. CERHrOfMonth(PSA): Hour of the month date of data to be analyzed, entered at PGE request time, used as a runtime parameter in the PCF. Domain Values: {1..744} Data Type: (s3)

10-17. PGE Software Internally Generated

Date/Time Information:

10. RangeBeginningDate: The year (and optionally month or month and day) when the temporal coverage period began. Data Type: (date)
11. RangeBeginningTime: The first hour (and optionally minute, or minute and second) of the temporal coverage period described. Data Type: (time)
12. RangeEndingDate: The year (and optionally month or month and day) when the temporal coverage period ended. Data Type: (date)
13. RangeEndingTime: The last hour (and optionally minute, or minute and second) of the temporal coverage period described. Data Type: (time)

14. AutomaticQualityFlag: PGE determined flag, reflecting the quality of the granule. Valid Values {Passed, Failed, Suspect} Data Type: (s64)
15. AutomaticQualityFlagExplanation: The parameters determining the flag status are documented in this explanation. Data Type: (s255)
16. QAGranuleFilename(PSA): The filename(s) associated with one or more QA/QC report files, if applicable. Data Type: (s255)
17. ValidationFilename(PSA): The filename(s) associated with one or more validation products, if applicable. Data Type: (s255)

18-28. Automated Wrapper Functions

For ECS BoundingRectangle Definition: (The data granule should be described as either by Bounding Rectangle or by GRing) Note: These values will be derived from the CERES Bounding Rectangle, or GRing descriptions.

18. EastBoundingCoordinate: Equivalent to the minimum longitude value of the data, range will be from -180. to 180. degrees. Data Type: (F11.6)
19. WestBoundingCoordinate: Equivalent to the maximum longitude value of the data, range will be from -180. to 180. degrees. Data Type: (F11.6)

20. SouthBoundingCoordinate: Equivalent to the minimum latitude value of the data, range will be from -90. to 90. degrees. Data Type: (F11.6)
21. NorthBoundingCoordinate: Equivalent to the maximum latitude value of the data, range will be from -90. to 90. degrees. Data Type: (F11.6)

For ECS GRing Definition:

22. GRingPointLatitude: The geodetic latitude of a point of the G-Ring, range will be from -90. to +90. degrees. Data Type: (F11.6), Array(5)
23. GRingPointLongitude: The longitude of a point of the G-Ring, range will be from -180. to +180. degrees. Data Type: (F11.6), Array(5)
24. GRingPointSequenceNo: The numerical sequence number of a G-Ring point. Data Type: (I5), Array(5)
25. ExclusionGRingFlag: (Y) Lat/Long starting point defined at inner (exclusion) G-Ring.
(N) Lat/Long starting point defined at outer G-Ring.
Valid Values: {Y (= YES), N (= NO)} Data Type: (s1)

26. AssociatedPlatformShortName: Derived from the SamplingStrategy by the metadata wrapper. Valid Values: {CERES, TRMM, AM1, TBD} Data Type: (s20)
27. AssociatedInstrumentShortName: Derived from the SamplingStrategy by the metadata wrapper. Valid Values: {PFM, FM1, TBD} Data Type: (s20)
28. ImagerShortName(PSA): Derived from the SamplingStrategy by the metadata wrapper. Valid Values: {VIRS, MODIS, TBD} Data Type: (s20)

29. Source: PGE (PCF)

29. LocalGranuleID: The filename will be stored here and will follow Dr. Bruce Barkstrom's Naming Convention (see Appendix A). The naming convention will be built into the LaTIS System in order to produce this attribute. Data Type: (s80)

[Investigation]_ [Product-ID]_[SamplingStrategy]_[ProductionStrategy]_[Configuration].[Instance]

Source of LocalGranuleID parameters:

Investigation: CER (fixed)
Product-ID: For Archival Products, the Data Product Catalog (DPC) name should be used, i.e. SSF, else the ESDT Shortname will be stripped to retrieve the product's name.
SamplingStrategy: see item 4.
ProductionStrategy: see item 5.
Configuration: Latest configuration code #. Source: PCF runtime parameter for the subsystem, will be retrieved from a LaTIS database table.
Instance: A variable length identifier chosen by the working group to uniquely identify the instance in the SamplingStrategy. If the identifier includes a data date, it must be of the form YYYY[MM][DD][HH], such as 1997111501 or 20000312. Less commonly, the Instance may include spatial identifiers, such as Zone numbers or latitude bands. Thus, we might have 199903zone180. In most cases this parameter will resort to a default value. Source: PCF

30-32. Automated Wrapper Functions

30. LocalVersionID: Location to store version numbers such as: SWsccr#, AncillaryDATAsccr#, TK, and library version numbers. SWsccr# and AncillaryDATAsccr#,

for the subsystem, will be retrieved from a LaTIS database table and used as a runtime parameter in the PCF. Data Type: (s60)

31. InputPointer: Reference to input granules, is collected through parameter calls of the metadata wrapper. Data Type (s255), Array(800)
32. PGEVersion: The ConfigurationCode value, tracking software code and static input in the Delivered Algorithm Package will be used as the PGE version identifier by the metadata wrapper. Data Type: s(10)

4.2 Archive Metadata (Items 33-41)

33-38. PGE Functions

For CERES BoundingRectangle Definition: (The data granule should be described as either by Bounding Rectangle or by GRing)

33. CEREastBoundingCoordinate: CERES equivalent to the minimum longitude value of the data, range will be from 0. to 360. degrees. Data Type: (F11.6)
34. CERWestBoundingCoordinate: CERES equivalent to the maximum longitude value of the data, range will be from 0. to 360. degrees. Data Type: (F11.6)
35. CERSouthBoundingCoordinate: CERES equivalent to the minimum latitude value of the data, range will be from 0. to 180. degrees. Data Type: (F11.6)
36. CERNorthBoundingCoordinate: CERES equivalent to the maximum latitude value of the data, range will be from 0. to 180. degrees. Data Type: (F11.6)

For CERES GRing Definition:

37. CERGRingPointLatitude: CERES geodetic latitude of a point of the G-Ring, range will be from 0. to 180. degrees. Data Type: (F11.6), Array(5)
38. CERGRingPointLongitude: CERES longitude of a point of the G-Ring, range will be from 0. to 360. degrees. Data Type: (F11.6), Array(5)

39. CERProductionDateTime: The production date and time obtained from a UNIX system call within the wrapper. Data Type: datetime
40. NumberofRecords: Total number of data records in granule, provided by PGE. Data Type: (I10)
41. ProductGenerationLOC: Hardware Platform of granule generation and location, provided by wrapper. Data Type: (s255)

5.0 Metadata Supplied by Science Team

Table 3: Metadata Supplied by Science Team

Item	Source	Metadata	Data Type	Valids	Default
1.	SCF	ScienceQualityFlag	s(64)	Passed, Failed, BeingInvestigated, Validated, NotInvestigated	NotInvestigated
2.	SCF	ScienceQualityFlagExplanation	s(255)		
3.	SCF	DataReleaseFlag (Flag to Outside World)	s(64)	Yes/No (No=Default, Yes=Passed, or Validated)	No

6.0 Metadata Supplied by DAAC

Table 4: Metadata Supplied by DAAC

Item	Metadata	Data Type	Valids	Default
1.	PGEVersionID	TBD		
2.	OperatingSystem	TBD		
3.	DAACArchiveLocation	TBD		
4.	OperationalQualityFlag	s(64)	Passed,Failed,BeingInvestigated,NotInvestigated	Passed
5.	OperationalQualityFlagExplanation	s(255)		
6.	ArchivalDateTime	datetime		
7.	SizeMBECSDataGranule	TBD		
8.	PCFPointer(PSA)	TBD		
9.	QAGranulePointer	s(255)		
10.	BrowseFlag(PSA)	TBD		
11.	BrowsePointer	s(255)		
12.	BrowseSize(PSA)	TBD		
13.	ProcessingHistoryPointer	s(255)		
14.	ExitCodeFlag(PSA)	I(5)		

7.0 CERES Product Specific Metadata

7.1 CERES Baseline PSA

The following parameters are Product Specific Attributes (PSA) to be included for all CERES Output Product Collections on the granule level.

Table 5: CERES Baseline Product Specific Metadata

ProposedName	Description	Data Type	Max Value	Min Value	Valid Value	Value Desc.
CERPGEName	Each subsystem has been assigned a name for each respective PGE. This name will be embedded within the PCF, and will be the processor (PGE) identifier.(Ex. 6.1P1)	s(20)	N/A	N/A	see Table 9 below in Sec. 8.	
SamplingStrategy	Derived from a LaTIS table at PGE request time, and used as a runtime parameter in the PCF. This is a description of the data source, which typically uses the satellite, instrument combination and imager source that contributes to the product.	s(20)	N/A	N/A	CERES, TRMM-PFM-VIRS, AM1-FM1-MODIS	TBD
ProductionStrategy	Derived from a LaTIS table at PGE request time, and used as a runtime parameter in the PCF.	s(20)	N/A	N/A	Edition, Campaign, DiagnosticCase	TBD
CERDataDateYear	Year date of data to be analyzed, entered at PGE request time, used as a runtime parameter in the PCF.	s(4)	N/A	N/A	N/A	N/A
CERDataDateMonth	Month date of data to be analyzed, entered at PGE request time, used as a runtime parameter in the PCF.	s(2)	12	1	N/A	N/A
CERDataDateDay	Day date of data to be analyzed, entered at PGE request time, used as a runtime parameter in the PCF.	s(2)	31	1	N/A	N/A
CERHrOfDay	Hour of the day date of data to be analyzed, entered at PGE request time, used as a runtime parameter in the PCF.	s(2)	23	0	N/A	N/A
CERHrOfMonth	Hour of the month date of data to be analyzed, entered at PGE request time, used as a runtime parameter in the PCF.	s(3)	744	1	N/A	N/A
QAGranuleFilename	The filename(s) associated with one or more QA/QC report files	s(255)	N/A	N/A	N/A	N/A

Table 5: CERES Baseline Product Specific Metadata

ProposedName	Description	Data Type	Max Value	Min Value	Valid Value	Value Desc.
ValidationFilename	The filename(s) associated with one or more validation products, if applicable.	VA(255)	N/A	N/A	N/A	N/A
ImagerShortName	Imager source used in the analysis	s(20)	N/A	N/A	VIRS MODIS, TBD	w/TRMM w/AM1
FileType	Optional Parameter, to be used as an extension of the **[Instance]** in the 'LocalGranuleName' to further specify file distinctions.	s(5)	N/A	N/A	N/A	Z(one)#, R(egion)# F(ile)# S(eason)val.

7.2 PSA (Group 1)

The following Product Specific Metadata is defined for the following Collections: CFSSFIAB, CGFLATAB, CGSSF_AB, CGQCI_AB, CGQCA_AB

Table 6: PSA (Group 1)

ProposedName	Description	Data Type	Max Value	Min Value	Valid Value	Value Desc.
PercentCrosstrackFOV	Percent of footprints for which azimuth plane was fixed and the corresponding clock angle is between 88 and 92 deg. or between 268 and 272 deg.	F8.3	100.	0.	N/A	N/A
PercentRapsFOV	Percent of footprints for which the azimuth plane was rotating	F8.3	100.	0.	N/A	N/A
PercentOtherFOV	Percent of footprints for which the azimuth plane was fixed, but not in crosstrack mode.	F8.3	100.	0.	N/A	N/A

7.3 PSA (Group 2)

The following Product Specific Metadata is defined for the following Collections: COGRANAA, COGGEOAA, COQCRPAA, COQCPPAA, CNSRBBAB, CNSRB1AB, CNSRB2AB, CNQCRPAB, CJTSI_AB, CJQCRPAB

Table 7: PSA (Group 2)

ProposedName	Description	Data Type	Max Value	Min Value	Valid Value	Value Desc.
GeostationarySats	Names of Geostationary Satellites	s(80)	N/A	N/A	GOES8 GOES9 METEOSAT6 GMS5 (or any combination of these)	N/A

7.4 PSA (Group 3)

The following Product Specific Metadata is defined for the following Collections: CMSFCMAB, CMSFC_AB, CIFSWMAB, CIFSW_AB, CIQCRPAB, CMQCRPAB

Table 8: PSA (Group 3)

ProposedName	Description	Data Type	Max Value	Min Value	Valid Value	Value Desc.
ZoneBeginning	Beginning zone number	I4	180	1	N/A	N/A
ZoneEnding	Ending zone number	I4	180	1	N/A	N/A

7.5 PSA (Group 4)

The following Product Specific Metadata is defined for the following Collections: CBPES8_B, CCES8_AB

Table 9: PSA (Group 4)

ProposedName	Description	Data Type	MaxValue	Min Value	Valid Value	Value Desc.
nrecfap	number of fap records	I5	13091	0	N/A	N/A
nrecrap	number of rap records	I5	13091	0	N/A	N/A

8.0 PGE Description Table

The following table defines the CERPGEName Valid Values (PGEName) referenced in Table 5 above. The PGEName has been defined as follows: x.yPz, where x = Subsystem Identifier, y = the PGE, z = the PGE version.

Table 10: PGE Description Table

Subsystem	PGEName	PGE Description
1.	1.1P1	Level 0 Data Processor
1.	1.1P2	Quick Look Data Processor
2.	2.1P1	Calculate Snow Map and LW Thresholds (Input to 2.2P1, 2.2P2, 2.2P3)
2.	2.2P1	First Day Processor for ERBE-like Inversion to Instantaneous TOA Fluxes (First day of Month)
2.	2.2P2	Faps Processor for ERBE-like Inversion to Instantaneous TOA Fluxes (Days 2 - End-OfMonth)
2.	2.2P3	Raps Processor for ERBE-like Inversion to Instantaneous TOA Fluxes
2	2.3P1	ERBE-like Inversion Post Processor, to create ES8_HDF
3.	3.1P1	Solar Declination Yearly Processor
3.	3.2P1	ERBE-like Averaging to Monthly TOA Flux Processor
3	3.3P1	ERBE-like Monthly Averaging Post Processor, to create ES9_HDF and ES4_HDF
4.1-4.4	4.1P1	Derive Snow and Ice Maps
4.1-4.4	4.1-4.1P1	Cloud Property Retrieval and Convolution of Imager Cloud properties with CERES Footprint Point spread function
4.1-4.4	4.1-4.2P1	Process Clearsky Update File
4.5-4.6	4.5-6.1P1	Inversion to Instantaneous TOA Fluxes and Surface Fluxes
4.5-4.6	4.5-6.2P1	Postprocessor for SSF HDF generation
5.	5.1P1	Compute Surface and Atmospheric Radiative Fluxes
5.	5.2P1	Postprocessor for CRS HDF generation
5.	5.3P1	Postprocessor to update Surface Albedo (daily) from hrly Albedo
6.	6.1P1	Grid Single Satellite Fluxes and Clouds and compute Spatial Averages Processor
6.	6.2P1	Sort and Merge Gridded Single Satellite Fluxes and Clouds
6.	6.3P1	Postprocessor for FSW HDF generation
7.1	7.1P1	Process Time Interpolation and Synoptic Flux Computation
7.2	7.2.1P1	Compute Surface and Atmospheric Fluxes at Synoptic Time 0
7.2	7.2.1P2	Compute Surface and Atmospheric Fluxes at Synoptic Time 3

Subsystem	PGEName	PGE Description
7.2	7.2.1P3	Compute Surface and Atmospheric Fluxes at Synoptic Time 6
7.2	7.2.1P4	Compute Surface and Atmospheric Fluxes at Synoptic Time 9
7.2	7.2.1P5	Compute Surface and Atmospheric Fluxes at Synoptic Time 12
7.2	7.2.1P6	Compute Surface and Atmospheric Fluxes at Synoptic Time 15
7.2	7.2.1P7	Compute Surface and Atmospheric Fluxes at Synoptic Time 18
7.2	7.2.1P8	Compute Surface and Atmospheric Fluxes at Synoptic Time 21
7.2	7.2.2P1	Postprocessor for SYN HDF generation
8.	8P1	Monthly Regional, Zonal and Global Radiation Fluxes and Cloud Properties
9.	9.1P1	Post-Processor for MOA Data
9.	9.2P1	Grid TOA and Surface Fluxes
9.	9.3P1	Sort and Merge Gridded TOA and Surface Fluxes
9.	9.4P1	Post-Processor for SFC HDF-EOS Data File
10.	10P1	Monthly Regional TOA and Surface Radiation Budget
11.	11.1P1	Grid GOES8 Geostationary Narrowband Radiance
11.	11.1P2	Grid GOES9 Geostationary Narrowband Radiance
11.	11.1P3	Grid Meteosat Geostationary Narrowband Radiance
11.	11.1P4	Grid GMS-5 Geostationary Narrowband Radiance
11.	11.2P1	Sort and Merge Gridded Geostationary Narrowband Radiance
12.	12P1	Regrid Humidity and Temperature Fields Processor (MOA Product)

Appendix A: CERES File Naming Convention

May 12, 1997

TO:CERES Science and Data Management Teams

FROM:CERES Instrument Principal Investigator

SUBJECT:Draft CERES File Naming Conventions

During the past several weeks, we have had extensive discussions regarding possible approaches to naming conventions for the CERES data products and other files. The discussion has been vigorous and far reaching. I appreciate your willingness to enter into the conversation with a substantial amount of energy. However, it is also clear to me that the discussion might never converge, even though we must get on with the business of producing ERBE and CERES data. Accordingly, the following conventions will be used on all CERES files until such time as we have to make a revision to accommodate the migration to the ECS or ESDIS delivered software for EOSDIS.

All files will contain an identifier constructed as follows:

[Investigation]_[Product ID]_[SamplingStrategy]_[ProductionStrategy]_ [Configuration].[Instance]

The components of this identifier are as follows:

Investigation: the 3 characters 'CER' for CERES.

Product_ID: a variable-length name, chosen by each Working Group to make sense of their files. Archival product files should match the Data Products Catalog abbreviations, e.g., IES, FSW, SSF, SRBAVG.

SamplingStrategy: a variable-length description of the data source, which typically uses the satellite or instrument combination that contributes to the product, such as TRMM or AM1. Where the instrument calibration dominates, we recommend using the TRW serial number, such as PFM or FM1. The Working Groups are responsible for these names. Examples of sampling strategies include TRMM, AM1, PFM+FM1, etc. I can provide additional examples or the theoretical basis for this component if you are interested.

Production Strategy: a variable-length description of the file version (sometimes identified as Version) Versions come in the following flavors:

Edition, a continuous, consistent series of an archival data product or source file. There are likely to be very few Editions of a data product over the life of CERES. We suggest using either 'Ed1' or 'AtLaunchEd' for the edition we construct as the first Edition we publish after TRMM. We expect the second major edition to occur about the year 2000, when we will include new ADM's based on TRMM data.

Campaign, a homogeneous series of an archival data product or file. Typically, a file in a Campaign Version of a series will have homogeneous data sources and source code. The most likely kind of Campaigns for CERES will be those involving Validation such as FIRE campaigns or field work involving INDOEX, CAGEX, ARM, or similar scientific activities. We suggest Working Groups consider very short abbreviations of the campaigns for the Version identifier, such as FIREV or INDOEX.

Diagnostic Case, a homogeneous series of files. Diagnostic Case files will typically be produced in response to anomaly reports or in search of improvements. The number of files in a diagnostic case is highly variable, but is often small. The files we produced trying to find, understand, and correct the burn problem on ERBE provides a useful example of this kind of version. Working Groups are responsible for identifiers. The intent is to use the identifier for providing an identifier for the kind of problem being diagnosed. Examples might include TRMMBurn or AM1RTAdj (for an investigation of problems with the Radiative

Transfer adjustments on AM-1.

Configuration: a 5-digit key into a database table controlled by Configuration Management to track all items which affect the content of this instance of a particular product. The state of these items must be replicated in the product header metadata. We will likely strip this code then the product is distributed to an investigator. Examples include 00001, 00010, etc.

Instance: a variable length identifier chosen by the working group to uniquely identify the instance in the sampling strategy. If the identifier includes a data date, it must be of the form YYYY[MM][DD][HH], such as 1997111501 or 20000312. Less commonly, the Instance may include spatial identifiers, such as Zone numbers or latitude bands. Thus, we might have 199903zone180.

We cannot avoid delimiters in this identifier scheme. Do not include spaces, '\', '/', '|', '[', ']', '*', '$', etc.
An underscore, '_', is the only delimiter to be used between fields and must not appear within the individual fields in the file names. Where identifiers are concatenated, use only a '+'. Violation of these rules will make the file identifiers unusable on some operating systems.

Examples:

[Investigation]_ [Product ID]_[SamplingStrategy]_[ProductionStrategy]_[Configuration].[Instance]

CER_IES_TRMM_Ed1_00001.1997111501
CER_SRBAVG_PFM+FM1+FM4_AM1ADMEd_00003.200201

Finally, be brief. Many of the differences of opinion about identifiers hinge on the aesthetics of short, encoded meanings, on individual preferences regarding readability, and on the appearance of file names in directories. We will continually face the balance between legibility and brevity. It is a breach of etiquette to have file names that cannot be printed on a single line of 10 pt., fixed pitch font of the type used to deliver a list of files on 8mm tape. Working Groups violating this principle will receive due punishment at appropriate gatherings of the CERES Team.

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