2.18 Monthly Cloud Averages (ISCCP-D2like-GEO)

The Monthly Cloud Averages (ISCCP-D2like-GEO) archival data product contains 3-hourly (GMT based) monthly and monthly 1° gridded regional daytime mean cloud properties as a function of 18 cloud types, similar to the ISCCP D2 product, where the cloud properties are stratified by pressure, optical depth, and phase. The GEO ISCCP-D2like is a 5-satellite, daytime 3-hourly GMT, 8km nominal resolution, geostationary-only cloud product limited to 60°N to 60°S. The GEO ISCCP-D2like is a daytime-only product, where the cloud retrievals incorporate only a visible and IR channel common to all geostationary satellites for spatial consistency. The geostationary calibration is normalized to Terra-MODIS. The GEO cloud properties are from the same source as the SRBAVG product, however they are not temporally interpolated. Input to the Subsystem is the Gridded GEO Narrowband Radiances (GGEO) archival data product. Each GEO ISCCP-D2like covers a single month. The science data are Scientific Data Sets (SDSs) with multiple records. Each record contains spatially averaged data for an individual region. All Edition ISCCP-D2like HDF files from Terra/Aqua, GEO composite and merged products, will have the same structure and read program and will be differ from this current Beta1 version.

The major categories of data output on the ISCCP-D2like-GEO HDF file is as follows:

- Regional Identification Parameters
- D2like-GEO 18 Cloud Types for monthly-3-hourly/monthly

A complete listing of metadata and gridded science parameters for this data product can be found in Table 2.18-1 through Table 2.18-5.

Level: 3
Frequency: 1/Month
Portion of Atmosphere Covered: Clouds

Time Interval Covered:
File: 1 Month
Record: 1 Month

Portion of Globe Covered:
File: Entire Global
Record: 1-Deg Regions

Product Version:
GEO Composite: Edition2A

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ISCCP-D2like-GEO Metadata

The ISCCP-D2like-GEO metadata are summarized in Table 2.18-1. These metadata contain information which need only be recorded once per product. The CERES metadata are listed in Appendix B. Table B-1 lists the CERES Baseline Header Metadata and Table B-2 lists the CERES_metadata Vdata.

Table 2.18-1. ISCCP-D2like Metadata Summary

HDF Name	Description Table	Records	Number of Fields
CERES Baseline Header Metadata	Table B-1	1	36
CERES_metadata Science Data	Table B-2	1	14

All of the science data are organized into the HDF Grid data type and are contained in one ISCCP-D2like-GEO HDF file, which are shown in Table 2.18-2 to Table 2.18-5. Each table contains a list of the parameters, including SDS index, SDS Name, data type, units, range, and number of elements within each field.

All SDS names with a suffix of -MH refer to monthly 3-houry and a suffix of -M to monthly mean.

Table 2.18-2. Temporal Vgroups

Vgroup Number	Vgroup Name	Monthly 3-Hourly Averages/ Monthly Averages
1	Monthly 3-Hourly Averages	See Table 2.18-3
2	Monthly Averages	See Table 2.18-3

Table 2.18-3. Vgroup Types

Vgroup Number	Vgroup Name	Monthly 3-Hourly Averages/ Monthly Averages
1	Regional Identification Parameters	See Table 2.18-4
2	D2like-GEO 18 Cloud Types	See Table 2.18-5

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Table 2.18-4. Regional Identification Parameters

SDS Index		SDS Name	Data Type	Units	Range	No. of Elements	
0	9	Colatitude	32-Bit Float	Degree	0 .. 180	8*180*360	1*180*360
1	10	Longitude	32-Bit Float	Degree	0 .. 360	8*180*360	1*180*360

See Table 2.9-7 for a complete list of the 8 GMT-based monthly 3-hourly time increments

Black = (MH) Monthly 3-Hourly
Red = (M) Monthly Mean

Table 2.18-5. ISCCP-D2like-GEO Cloud Types

SDS Index		SDS Name	Data Type	Units	Range	No. of Elements	
2	11	Number Of Observations	32-Bit Float	N/A	N/A	8*180*360	1*180*360
3	12	Total Cloud Area Fraction	32-Bit Float	Percent	0.0 .. 100.0	8*180*360	1*180*360
4	13	Cloud Area Fraction	32-Bit Float	Percent	0.0 .. 100.0	8*18*180*360	1*18*180*360
5	14	Effective Pressure	32-Bit Float	hPa	0 .. 1100	8*18*180*360	1*18*180*360
6	15	Effective Temperature	32-Bit Float	K	100 .. 350	8*18*180*360	1*18*180*360
7	16	Log (Visible) Optical Depth - MH	32-Bit Float	N/A	-6 .. 6	8*18*180*360	1*18*180*360
8	17	Liquid/Ice Water Path - MH	32-Bit Float	N/A	0 .. 400	8*18*180*360	1*18*180*360

Black = (MH) Monthly 3-Hourly
Red = (M) Monthly Mean

Table 2.18-6. List of the 18 Cloud Types used in Table 2.18-5

Cloud Type	Name	Phase	(Pressure Level, Optical Depth Level)
1	Cumulus	Liquid	(Low, Thin)
2	Stratocumulus	Liquid	(Low, Mid-thick)
3	Stratus	Liquid	(Low, Thick)
4	Cumulus	Ice	(Low, Thin)
5	Stratocumulus	Ice	(Low, Mid-thick)
6	Stratus	Ice	(Low, Thick)
7	Altocumulus	Liquid	(Mid, Thin)
8	Altostratus	Liquid	(Mid, Mid-thick)
9	Nimbostratus	Liquid	(Mid, Thick)

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Table 2.18-6. List of the 18 Cloud Types used in Table 2.18-5

Cloud Type	Name	Phase	(Pressure Level, Optical Depth Level)
10	Altocumulus	Ice	(Mid, Thin)
11	Altostratus	Ice	(Mid, Mid-thick)
12	Nimbostratus	Ice	(Mid, Thick)
13	Cirrus	Liquid	(High, Thin)
14	Cirrostratus	Liquid	(High, Mid-thick)
15	Deep Convection	Liquid	(High, Thick)
16	Cirrus	Ice	(High, Thin)
17	Cirrostratus	Ice	(High, Mid-thick)
18	Deep Convection	Ice	(High, Thick)

Table 2.18-7. List of the 8 GMT-based monthly 3-hourly indices used in this document

Time index	Time increment
1	00-03 GMT
2	03-06 GMT
3	06-09 GMT
4	09-12 GMT
5	12-15 GMT
6	15-18 GMT
7	18-21 GMT
8	21-24 GMT
1	00-24 GMT Monthly

Black = (MH) Monthly 3-Hourly
Red = (M) Monthly Mean

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Table 2.18-8. Definition of the 180x360 regions used in this document

There are 180 1° equal latitude bins and 360 1° equal longitude bins
The latitude index #1 is defined at 89.5°N and index #180 is defined at 89.5°S
The longitude index #1 is defined at 0.5°E and index #360 is defined at 359.5°W

Total Bits/Region Record:	**27,072**
Total Bytes/Region Record:	**3,384**
Total Records/File:	**64,800**
Total Bits/File:	**1,754,265,600**
Total Bytes/File:	**219,283,200**

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ISCCP-D2like-GEO Revision Record

The product 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.

ISCCP-D2like-GEO Revision Record

SCCR Approval Date	Release/ Version Number	SCCR Number	Description of Revision	Section(s) Affected
05/28/2008	R5V1	675	• Initial version. • Some links were not working. They have now been modified. (12/09/2010) • Updated the numbering system of the document where other DPCs were added ahead of this one on the Website. (07/25/2011)	All All All
07/23/2010	R5V2	799	• Updated Product version. • The ASDC footer was added to the bottom of the document. (06/05/2013)	Sec. 2.18 All

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