

2.14 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 2.14-1](#) through [Table 2.14-5](#).

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: Beta1

ISCCP-D2like-GEO Metadata

The ISCCP-D2like-GEO metadata are summarized in [Table 2.14-1](#). 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 2.14-1. 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 2.14-2](#) to [Table 2.14-5](#). 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-hourly and a suffix of -M to monthly mean.

Table 2.14-2. Temporal Vgroups

Vgroup Number	Vgroup Name	Monthly 3-Hourly Averages/ Monthly Averages
1	Monthly 3-Hourly Averages	See Table 2.14-3
2	Monthly Averages	See Table 2.14-3

Table 2.14-3. Vgroup Types

Vgroup Number	Vgroup Name	Monthly 3-Hourly Averages/ Monthly Averages
1	Regional Identification Parameters	See Table 2.14-4
2	D2like-GEO 18 Cloud Types	See Table 2.14-5

Table 2.14-4. 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 2.14-5. 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 2.14-6. List of the 18 Cloud Types used in [Table 2.14-5](#)

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	Alto cumulus	Liquid	(Mid, Thin)
8	Altostratus	Liquid	(Mid, Mid-thick)
9	Nimbostratus	Liquid	(Mid, Thick)

Table 2.14-6. List of the 18 Cloud Types used in [Table 2.14-5](#)

Cloud Type	Name	Phase	(Pressure Level, Optical Depth Level)
10	Alto cumulus	Ice	(Mid, Thin)
11	Alto stratus	Ice	(Mid, Mid-thick)
12	Nimbo stratus	Ice	(Mid, Thick)
13	Cirrus	Liquid	(High, Thin)
14	Cirro stratus	Liquid	(High, Mid-thick)
15	Deep Convection	Liquid	(High, Thick)
16	Cirrus	Ice	(High, Thin)
17	Cirro stratus	Ice	(High, Mid-thick)
18	Deep Convection	Ice	(High, Thick)

Table 2.14-7. 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

Table 2.14-8. 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

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
05/28/08	R5V1	675	<ul style="list-style-type: none">Initial version.	All