

MOD10C1 and MYD10C1 Snow Cover Attributes, Version 5

MOD10C1 AND MYD10C1 GLOBAL SNOW COVER ATTRIBUTES

The MOD10C1 and MYD10C1 snow cover product data files include three Earth Observing System Data and Information System (EOSDIS) Core System (ECS) global attributes. These global attributes are stored as character strings in [Parameter Value Language](#) (PVL) format. Also, these global attributes as well as other attributes can be found in the associated metadata file, and are formatted as [Extensible Markup Language](#) (XML). The metadata file should be examined to determine if post-production changes were made to the metadata. Post-production metadata changes are not updated in the data file. Changes such as Quality Assessment (QA) updates are only reflected in the metadata file.

CoreMetadata.0

Also known as inventory metadata, core metadata are used to populate the EOSDIS Core System (ECS) inventory, which allows users to locate granules of interest.

Object Name	Comments	Sample Value
ShortName	Earth Science Data Type (ESDT), name of product.	MOD10C1
VersionID	ECS Collection Version.	5
ReprocessingActual	Number of times processed.	reprocessed
ReprocessingPlanned	Expect that products will be reprocessed at least once.	further update is anticipated
LocalGranuleID		MOD10C1.A2000063.005.2006254151412.hdf
DayNightFlag		both
ProductionDateTime	Time granule was produced.	2006-09-11 15:14:12.0
LocalVersionID	Version of algorithm delivered from the Science Computing Facility (SCF).	SCF V5.0.0
PGEVersion	Version of PGE in MODAPS.	5.0.6
InputPointer	Names of input files.	MOD10A1.A200063...
RangeBeginningDate	Beginning date of the first scan line in the swath.	2000-03-03



Object Name	Comments	Sample Value
RangeBeginningTime	Beginning time of the first scan line in the swath.	00:00:00.0000000
RangeEndingDate	Ending date of the last scan line in the swath.	2000-03-03
RangeEndingTime	Ending time of the last scan line in the swath.	23:59:59.0000000
ParameterName	Parameter for which QA statistics are given in this metadata object.	Global Snow Cover
AutomaticQualityFlag	Result of automated checks during the run of the algorithm that screens for significant amounts of anomalous data.	Passed
AutomaticQualityFlagExplanation	Explanation of result of automated QA checks made during execution.	No automatic quality assessment done in the PGE
ScienceQualityFlag	Set by snow investigator after post-production investigation.	Not investigated
ScienceQualityFlagExplanation	Explanation of science flag.	Visit MODLAND QA - Product Quality Documentation - Terra, C6 for the product Science Quality status.
OperationalQualityFlag		Passed
OperationalQualityFlagExplanation	Explanation of science flag.	Passed
QAPercentMissingData	0-100	0
QAPercentCloudCover	0-100	29
PlatformShortName		Terra
InstrumentShortName		MODIS
SensorShortName		MODIS

CoreMetadata.0 Product Specific Attributes (PSAs)

The CoreMetadata.0 product specific metadata attributes can be found by using most search tools.

Object Name	Comments	Sample Value
QAPercentGoodQuality		73

Object Name	Comments	Sample Value
QAPercentOtherQuality	Summary quality assessment statistics for the data product. Note: pixels identified as cloud are considered Good Quality.	27
SnowCoverPercent	Summary percentage of snow-covered land.	44

ArchiveMetadata.0

This attribute contains information relevant to production of the data product. It also contains an alternate bounding of geographic coverage of the swath. These data are useful in determining what version of the algorithm was used to generate the product.

Object Name	Comment	Sample Value
PlatformShortName	Short name for the platform.	Terra
EastBoundingCoordinate	Extent of swath coverage in latitude and longitude.	180.0
WestBoundingCoordinate		-180.0
NorthBounding Coordinate		90.0
SouthBounding Coordinate		-90.0

StructMetadata.0

These attributes specify the content and structure of an HDF-EOS file and are not discussed further here. For more information, please see the 2001 white paper titled [An HDF-EOS and Data Formatting Primer for the ECS Project](#).

Product Specific Global Attributes

There are no product specific attributes for this data set.

MOD10C1 AND MYD10C1 LOCAL SNOW COVER ATTRIBUTES

Local attributes describe the data and provide summary information about the results of the snow cover algorithm. Two types of local attributes are reported: Hierarchical Data Format (HDF) predefined and custom local attributes.

HDF Predefined Local Attributes

Attribute Name	Reserved Label	Definition	Sample Value
Label	long_name	Long name of the Scientific Data Set (SDS).	Snow_covered_land
Unit	units	International System of Units (SI) of the data. This attribute may or may not be used.	none
Format	format	How the data should be viewed in Fortran format notation.	I3
Coordinate system	coordsys	Coordinate system to use for the data.	latitude, longitude
Range	valid_range	Maximum and minimum values within a selected data range.	0-100 for snow 0-3 for QA
Fill Value	_FillValue	Data used to fill gaps in the swath.	255

Custom Local Attributes for the Day_CMG_Snow_Cover Field

Attribute Name	Definition	Sample Value	
		Value	Description
Key	Key to the meaning of the coded integers within the SDS.	0 -100 = percent of snow in cell	
		107 = lake ice	snow-covered lake ice
		111 = night	darkness, terminator, or polar
		250 = cloud obscured water	
		253 = data not mapped	
		254 = water mask	
		255 = fill	
Mask_value	Value given to masked areas from analysis, primarily oceans.	254	

Attribute Name	Definition	Sample Value
Night_value	Value assigned to cells in complete darkness.	111
Cell_resolution	Approximate resolution of the Climate Modeling Grid (CMG) cells.	0.05 degrees
Water_mask_land_threshold (%)	Percentage of land in the cell to be processed as land. A cell with less than this threshold is considered ocean.	12.0
Antarctic_snow_note	Special note on Antarctica processing.	Antarctica deliberately mapped as snow

Custom Local Attributes for the Day_CMG_Confidence_Index Field

Attribute Name	Definition	Sample Value	
		Value	Description
Key	Key to the meaning of the coded integers within the SDS.	0 -100 = confidence index value	
		107 = lake ice	snow-covered lake ice
		111 = night	darkness, terminator, or polar
		250 = cloud obscured water	
		253 = data not mapped	
		254 = water mask	
		255 = fill	
		Mask_value	Value given to masked areas from analysis, primarily oceans.
Cell_resolution	Approximate resolution of CMG cells.	0.05 degrees	

Attribute Name	Definition	Sample Value
Water_mask_land_threshold (%)	Percentage of land in the cell to be processed as land. A cell with less land than this threshold is considered ocean.	12.0
Antarctic_confidence_index_note	Special note on Antarctica processing.	Antarctica deliberately mapped as snow. Confidence index is set to 100.

Custom Local Attributes for the Day_CMG_Cloud_Obscured Field

Attribute Name	Definition	Sample Value	
Key	Key to the meaning of the coded integers within the SDS.	Value	Description
		0 -100 = percent of cloud in cell	
		107 = lake ice	snow-covered lake ice
		111 = night	darkness, terminator, or polar
		250 = cloud obscured water	
		252 = Antarctic mask	
		253 = data not mapped	
		254 = water mask	
		255 = fill	
Mask_value	Value given to masked areas from analysis, primarily oceans.	254	
Not_processed_value	Value assigned to cells that were not processed.	252	
Night_value	Value assigned to cells in complete darkness.	111	

Attribute Name	Definition	Sample Value
Cell_resolution	Approximate resolution of CMG cells.	0.05 degrees
Water_mask_land_threshold (%)	Percentage of land in the cell to be processed as land. A cell with less land than this threshold is considered ocean.	12.0
Antarctic_cloud_note	Special note on Antarctica processing.	Antarctica deliberately mapped as snow. Cloud value set to 252.

Custom Local Attributes for the Snow_Spatial_QA Field

Attribute Name	Definition	Sample Value	
		Coded Integer	Value
Key	Explanation of the 2-bit Quality Assessment (QA) Flag.	0	good quality
		1	other quality
		252	Antarctic mask
		253	data not mapped
		254	ocean mask
		255	fill
		Mask_value	Value given to the masked areas from analysis, primarily oceans.
Cell_resolution	Approximate resolution of the CMG cells.	0.05 degrees	
Water_mask_land_threshold (%)	Percentage of land in the cell to be processed as land. A cell with less land than this threshold is considered ocean.	12.0	
Antarctic_QA_note	Special note on Antarctica processing.	Antarctica deliberately mapped as snow. QA value set to 252.	