MOD10CM AND MYD10CM GLOBAL AND LOCAL SNOW COVER ATTRIBUTES, VERSION 5

MOD10CM and MYD10CM Global Snow Cover Attributes, Version 5

The MOD10CM snow cover products 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 updates are only reflected in the metadata file.

The global attributes described in this document include:

- CoreMetadata.0 (Inventory metadata)
- ArchiveMetadata.0 (Archive Metadata)
- StructMetadata.0 (Structural Metadata)
- Product Specific Attributes

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, name of product.	MOD10CM
VersionID	ECS Version.	5
ReprocessingActual	Number of times processed.	Reprocessed
ReprocessingPlanned	Expect that products will be reprocessed at least once.	Further update is anticipated
LocalGranuleID		MOD10CM.A2000061.005.2006272184905.hdf
DayNightFlag	Snow will have either day or both.	Day
ProductionDateTime	Time granule was produced.	2006-09-29 18:49:05.0
LocalVersionID	Version of algorithm delivered from the Science Computing Facility.	SCF V5.0.1
PGEVersion	Version of production generation executable.	5.0.2
InputPointer	Input data files used to create this product.	MOD10C1.A2000091.005.2006259095329.hdf MOD10C1.A2000090.005.2006259211505.hdf MOD10C1.A2000089.005.2006259034125.hdf MOD10C1.A2000088.005.2006258233357.hdf MOD10C1.A2000087.005.2006258203616.hdf MOD10C1.A2000086.005.2006258174834.hdf MOD10C1.A2000085.005.2006258144712.hdf MOD10C1.A2000084.005.2006258104746.hdf

Object Name	Comments	Sample Value
		MOD10C1.A2000083.005.2006258091851.hdf MOD10C1.A2000082.005.2006258055530.hd MOD10C1.A2000081.005.2006258003314.hdf MOD10C1.A2000080.005.2006257183038.hdf MOD10C1.A2000079.005.2006257183037.hdf MOD10C1.A2000078.005.2006257163928.hdf MOD10C1.A2000077.005.2006257095344.hdf MOD10C1.A2000076.005.2006257085301.hdf MOD10C1.A2000075.005.2006257061820.hdf MOD10C1.A2000074.005.2006257170327.hdf MOD10C1.A2000073.005.2006256231616.hdf MOD10C1.A2000072.005.2006256232154.hdf MOD10C1.A2000071.005.2006256113621.hdf MOD10C1.A2000070.005.2006256063616.hdf MOD10C1.A2000069.005.2006256063138.hdf MOD10C1.A2000068.005.2006256063141.hdf MOD10C1.A2000067.005.2006256062454.hdf MOD10C1.A2000066.005.2006256060458.hd MOD10C1.A2000065.005.2006268091631.hdf MOD10C1.A2000064.005.2006254215852.hdf MOD10C1.A2000063.005.2006254151412.hdf MOD10C1.A2000062.005.2006254085832.hdf MOD10C1.A2000061.005.2006254085830.hdf
RangeBeginningDate	Beginning date of the first scan line in the swath.	2000-03-01
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.	2000-03-31

Object Name	Comments	Sample Value
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.	Monthly 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.	
ScienceQualityFlag	Set by snow investigator after post-production investigation.	Not investigated
ScienceQualityFlagExplanation	Explanation of science flag.	Visit http://landweb.nascom.nasa.gov/cgi-bin/QA_WWW/qaFlagPage.cgi?sat=terra for the product Science Quality status.
OperationalQualityFlag		Passed
OperationalQualityFlagExplanation		Passed
QAPercentMissingData	0-100	2
QAPercentCloudCover	0-100	1
EastBoundingCoordinate	Extent of swath coverage in latitude and longitude.	180.0
WestBoundingCoordinate		-180.0
NorthBoundingCoordinate		90.0
SouthBoundingCoordinate		-90.0
ZoneIdentifier		Other Grid System
LocalityValue		Global

Object Name	Comments	Sample Value
AssociatedSensorShortname		MODIS
AssociatedPlatformShortname		Terra
AssociatedInstrumentShortname		MODIS

CoreMetadata.0 Product Specific Attributes (PSAs)

The CoreMetadata.0 product specific metadata attributes can be found by using most search tools. Also, when using certain interfaces for tile numbers, these attributes may be used as search criteria to restrict searches.

Object Name	Comments	Sample Value
QAPercentGoodQuality	Summary quality assessment statistics for data product.	97
QAPercentOtherQuality		3
SnowCoverPercent	Summary percentage of snow-covered land.	43

ArchiveMetadata.0

Theses attribute contains information relevant to production of the data product. They also contain 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
GlobalGridColumns		7200
GlobalGridRows		3600

Object Name	Comment	Sample Value
AlgorithmPackageAcceptanceDate	Algorithm descriptors.	03-2006
AlgorithmPackageMaturityCode		Normal
AlgorithmPackageName		MOD_PR10CM
AlgorithmPackageVersion		5
InstrumentName		Moderate Resolution Imaging Spectroradiometer
PlatformShortName		Terra
ProcessingDateTime		2006-09-29T14:48:53.000000Z
LongName		MODIS/Terra Snow Cover Monthly L3 Global 0.05Deg CMG
ProcessingCenter		MODAPS
SPSOParameters		None
DescrRevision	Version of MCF used.	5.0
ProcessingEnvironment		IRIX64 mtvs3 6.5 10070055 IP35

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 Global Attributes for MOD10CM.

MOD10CM and MYD10CM Local Snow Cover Attributes, Version 5

Local attributes describe the data and provide summary data on 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(s)	Definition	Sample Value
Label	long_name	Long name of the Scientific Data Set (SDS).	Monthly snow cover extent, 5km
Unit	units	International System of Units (SI) of the data.	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
Fill Value	_FillValue	Data used to fill gaps in the grid.	255

Custom Local Attributes for the Snow_Cover_Monthly_CMG Field

<table>
<tr><th>Attribute Name</th><th>Definition</th><th>Sample Value</th></tr>
<tr><td>Key</td><td>Key to the meaining of the coded integers within the SDS.</td><td>
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0 -100 = percent of snow in cell</td><td></td></tr>
<tr><td>211 = night</td><td>darkness, terminator, or polar</td></tr>
<tr><td>250 = cloud</td><td>cloud obscured water</td></tr>
<tr><td>253 = no decision</td><td></td></tr>
<tr><td>254 = water mask</td><td></td></tr>
<tr><td>255 = fill</td><td></td></tr>
</table>
</td></tr>
<tr><td>Mask_value</td><td>Value given to masked areas from analysis, primarily oceans.</td><td>254</td></tr>
<tr><td>Night_value</td><td>Value assigned to cells in complete darkness.</td><td>211</td></tr>
<tr><td>Cell_resolution</td><td>Approximate resolution of the Climate Modeling Grid (CMG) cells.</td><td>0.05 degrees</td></tr>
<tr><td>Antarctic_snow_note</td><td>Special note on Antarctica processing.</td><td>Antarctica deliberately mapped as snow</td></tr>
</table>

Custom Local Attributes for the Snow_Spatial_QA Field

Attribute Name	Definition	Value
Key	Explanation of the QA Flag.	0 = good quality 1 = other quality 252 = Antarctica mask 254 = water mask 255 = fill