MOD29E1D and MYD29E1D Global and Local Sea Ice Attributes, Version 5

MOD29E1D AND MYD29E1D GLOBAL SEA ICE ATTRIBUTES

The MOD29E1D and MYD29E1D sea ice 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.

The global attributes described in this document include:

- CoreMetadata.0
- ArchiveMetadata.0
- StructMetadata.0
- Product Specific Attribute

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.	MOD29E1D
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		MOD29E1D.A2000070.005.2006256010347.hdf
DayNightFlag	Can be Day, Night, or Both.	Day
ProductionDateTime	Time granule was produced.	2006-09-13T01:03:47.000Z
LocalVersionID	Version of algorithm delivered from the Science Computing Facility (SCF).	SCF V5.0.0
PGEVersion	Version of production generation executable.	5.0.4
InputPointer	Location of the three input files in the production system.	"/MODAPSops3/archive/f2/running/...
RangeBeginningDate	Beginning date of the first scan line in the swath.	2000-03-10
RangeBeginningTime	Beginning time of the first scan line in the swath.	00:00:00

Object Name	Comments	Sample Value
RangeEndingDate	Ending date of the last scan line in the swath.	2000-03-10
RangeEndingTime	Ending time of the last scan line in the swath.	23:59:59
ParameterName	Parameter for which QA statistics are given in this metadata object.	Sea_Ice_by_Reflectance_NP Ice_Surface_Temperature_NP Sea_Ice_by_Reflectance_SP Ice_Surface_Temperature_SP
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 http://landweb.nascom.nasa.gov/cgi-bin/QA_WWW/qaFlagPage.cgi?sat=terra for the product Science Quality status.
AssociatedSensorShortName		MODIS
AssociatedPlatformShortName		Terra
AssociatedInstrumentShortName		MODIS

1.1.1 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
QAPercentMissingData	Summary quality assessment statistic based on the thermal data. Range is 0-100.	7
QAPercentCloudCover		31

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
EastBoundingCoordinate	Extent of swath coverage, in latitude and longitude	180.0
WestBoundingCoordinate		-180.0
NorthBounding Coordinate		90.0
SouthBounding Coordinate		-90.0
AlgorithmPackageAcceptanceDate	Algorithm descriptors	12-2004
AlgorithmPackageMaturityCode		normal
AlgorithmPackageName		MOD29_PR29 Terra or Aqua full and coarse products
AlgorithmPackageVersion		5
InstrumentName		Moderate Resolution Imaging SpectroRadiometer
PlatformShortName		Terra

Object Name	Comment	Sample Value
ProcessingDateTime		2006-09-12T21:03:41.000000Z
LongName		MODIS/Terra Sea Ice Extent and IST Daily L3 Global 4km
ProcessingCenter		MODAPS
SPSOParameters		none
LocalityValue		Global
DESCRRevision	Version of Metadata Configuration File (MCF)	5.0
CharacteristcBinAngularSize		287.936014219062
CharacteristicBinSize		4.01080400e+03
GlobalGridColumns		4501
GlobalGridRows		4501
NumberOfInputGranules		209
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 Attributes

These attributes are specific to the MOD29E1D and MYD29E1D sea ice product.

Attribute Name	Comment	Sample Value
L1BCalibrationQuality		marginal
L1BMissionPhase		A&E
L1BNadirPointing		Yes
L1BVersionID	Version of L1B processing algorithm	2000-11-01
L1BAutoQA_EV_1KM_RefsB	Result of generalized quality analysis of L1B data	Suspect
SCFAlgorithmVersion	SCF versioning tracking information	$Id: MOD_PR29_AA...

MOD29E1D AND MYD29E1D LOCAL SEA ICE ATTRIBUTES, VERSION 5

Local attributes describe the data and provide summary information about the results of the sea ice 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 Scinetific Data Set (SDS).	Estimated sea ice surface temperature 4 km North Pole grid
Unit	units	International System of Units (SI) of the data. This attribute may or may not be used.	degree_Kelvin
Format	format	How the data should be viewed in Fortran format notation	f4.1

Attribute Name	Reserved Label(s)	Definition	Sample Value
Coordinate system	coordsys	Coordinate system to use for the data	cartesian
Range	valid_range	Maximum and minimum values within a selected data range	22320,31320
Fill Value	_FillValue	Data used to fill gaps in the swath	7
Calibration	scale_factor	Value by which each data element is to be multiplied[1]	0.01
	scale_factor_err	Error induced by scaling[1]	0.0
	add_offset	Value to add to each array element[1]	0.0
	add_offset_err	Error induced by offset[1]	0.0
	calibrated_nt	HDF data types of the calibrated data[1]	23

[1]These values are only used for Ice Surface Temperature (IST).

Custom Local Attributes for the Sea Ice by Reflectance NP 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 = missing data</td><td>missing data</td></tr>
<tr><td>1 = no decision</td><td>no decision</td></tr>
<tr><td>11 = night</td><td>darkness, terminator, or polar</td></tr>
<tr><td>25 = land</td><td>land</td></tr>
<tr><td>37 = inland water</td><td>lake or inland water</td></tr>
<tr><td>39 = ocean</td><td>ocean</td></tr>
<tr><td>50 = cloud</td><td>cloud obscured</td></tr>
<tr><td>200 = sea ice</td><td></td></tr>
<tr><td>253 = no input tile expected</td><td></td></tr>
<tr><td>254 = non-production mask</td><td></td></tr>
</table>
</td></tr>
</table>

Custom Local Attributes for the Ice Surface Temperature NP 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>0.0 = missing</td><td>missing data</td></tr>
<tr><td>1.0 = no decision</td><td>no decision</td></tr>
<tr><td>5.0 = non-production mask</td><td></td></tr>
<tr><td>7.0 = tile fill</td><td></td></tr>
<tr><td>8.0 = no input tile expected</td><td></td></tr>
<tr><td>25.0 = land</td><td>land</td></tr>
<tr><td>37.0 = inland water</td><td>lake or inland water</td></tr>
<tr><td>50.0 = cloud</td><td>cloud obscured</td></tr>
</table>
</td></tr>
</table>

Custom Local Attributes for the Sea Ice by Reflectance SP 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 = missing data</td><td>missing data</td></tr>
<tr><td>1 = no decision</td><td>no decision</td></tr>
<tr><td>11 = night</td><td>darkness, terminator, or polar</td></tr>
<tr><td>25 = land</td><td>land</td></tr>
<tr><td>37 = inland water</td><td>lake or inland water</td></tr>
<tr><td>39 = ocean</td><td>ocean</td></tr>
<tr><td>50 = cloud</td><td>cloud obscured</td></tr>
<tr><td>200 = sea ice</td><td></td></tr>
<tr><td>253 = no input tile expected</td><td></td></tr>
<tr><td>254 = non-production mask</td><td></td></tr>
</table>
</td></tr>
</table>

Custom Local Attributes for the Ice Surface Temperature SP 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>0.0 = missing</td><td>missing data</td></tr>
<tr><td>1.0 = no decision</td><td>no decision</td></tr>
<tr><td>5.0 = non-production mask</td><td></td></tr>
<tr><td>7.0 = tile fill</td><td></td></tr>
<tr><td>8.0 = no input tile expected</td><td></td></tr>
<tr><td>25.0 = land</td><td>land</td></tr>
<tr><td>37.0 = inland water</td><td>lake or inland water</td></tr>
<tr><td>50.0 = cloud</td><td>cloud obscured</td></tr>
</table>
</td></tr>
</table>