Terra MODIS Level 1

MOD01

1.

	FILENAME: MOD01.A2000055.0155.005.2010030164343.hdf (ftp link: here) (original NASA link: here)(Filesize=560MB)
	It is a pseudo eos file (there is no struct metadata). It has 120 datasets.
	There are no geolocation fields and related information in this file
	A value of -1 is commonly used for '_FillValue.' The file is missing the 'missing_value' attribute.

Datasets	
DatasetName	#Dimension (DimList)
SD_250m	3-D (8320*2*256)
SRCA_500m	3-D (4160*5*128)
SV_1km_day	3-D (2080*14*64)
EV_1km_night	3-D (2080*17*1400)

MOD021KM

2.

	FILENAME: MOD021KM.A2000055.0000.005.2010041143816.hdf (ftp link: here) (original NASA link: here)(Filesize=42MB)
	It is a swath file with 1 group and 2 dimension maps.
	There are 8 dimension names: Band_250M(2), Band_500M(5), Band_1KM_RefSB(15), Band_1KM_Emissive(16), 10*nscans(2030), Max_EV_frames(1354), 2*nscans(406), 1KM_geo_dim(271)
	There are several 'scales' and 'offsets' attributes for some variables. For data field 'EV_Band26'. One can find the following 'scales' and 'offsets' attributes. "radiance_scales", "radiance_offsets", "reflectance_scales" and "reflectance_offsets", etc. Users or tools have to figure out which one they should use.
	The 'Latitude' and 'Longitude' are as mentioned in the Geolocation Fields table. 'Latitude' Units: degrees; 'Longitude' Units: degrees. It does not follow CF conventions.
	This swath uses the dimension map. Users need to either find the corresponding geolocation HDF-EOS2 files or calculate the latitude/longitude based on dimension map parameters.
	Values of 255, 0, -1, -32767, and 65535 used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: MODIS_SWATH_Type_L1B

DataFieldName	#Dimension (DimList)
Height	2-D (2*nscans, 1KM_geo_dim)
EV_1KM_Emissive	3-D (Band_1KM_Emissive, 10*nscans)

	Other MOD021KM files have similar structure

MOD02HKM

3.

	FILENAME: MOD02HKM.A2000055.0005.005.2010029230803.hdf (ftp link: here) (original NASA link: here)(Filesize=25MB)
	It is a swath file with 1 group and 2 dimension maps.
	There are 6 dimension names: Band_250M(2), Band_500M(5), 20*nscans(4060), 2*Max_EV_frames(2708), 10*nscans(2030), Max_EV_frames(1354)
	There are several 'scales' and 'offsets' attributes for some variables. For data field 'EV_500_RefSB'. One can find the following 'scales' and 'offsets' attributes. "radiance_scales", "radiance_offsets", "reflectance_scales" and "reflectance_offsets", etc. Users or tools have to figure out which one they should use.
	The 'Latitude' and 'Longitude' are as mentioned in the Geolocation Fields table. 'Latitude' Units: degrees; 'Longitude' Units: degrees. It does not follow CF conventions.
	This swath uses the dimension map and there is no corresponding geolocation HDF-EOS2 file and users need to calculate the latitude and longitude based on dimension map parameters.
	Values of 255, -1, and 65535 used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: MODIS_SWATH_Type_L1B

DataFieldName	#Dimension (DimList)

EV_500_RefSB	3-D (Band_500M, 20*nscans, 2*Max_EV_frames)

Other MOD02HKM files have similar structure

MOD02OBC

4.

FILENAME: MOD02OBC.A2000056.0420.005.2010035060808.hdf (ftp link: here) (original NASA link: here)(Filesize=58MB)
It is a pseudo eos file (there is no struct metadata). It has 138 datasets.
There are no geolocation fields and related information in this file

Datasets	
DatasetName	#Dimension (DimList)
SD_250m	3-D (8160*2*200)
SRCA_500m	3-D (4080*5*20)
SV_1km_day	3-D (2040*14*50)

Other MOD02OBC files have similar structure

MOD02QKM

5.

FILENAME: MOD02QKM.A2000055.0005.005.2010029230803.hdf (ftp link: here) (original NASA link: here)(Filesize=27MB)
It is a swath file with 1 group and 2 dimension maps.
There are 5 dimension names: Band_250M(2), 40*nscans(8120), 4*Max_EV_frames(5416), 10*nscans(2030), Max_EV_frames(1354)
There are several 'scales' and 'offsets' attributes for some variables. For data field 'EV_250_RefSB'. One can find the following 'scales' and 'offsets' attributes. "radiance_scales", "radiance_offsets", "reflectance_scales" and "reflectance_offsets", etc. Users or tools have to figure out which one they should use.
The 'Latitude' and 'Longitude' are as mentioned in the Geolocation Fields table. 'Latitude' Units: degrees; 'Longitude' Units: degrees. It does not follow CF conventions.
This swath uses the dimension map and there is no corresponding geolocation HDF-EOS2 file and users need to calculate the latitude and longitude based on dimension map parameters.
Values of 255, and 65535 used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: MODIS_SWATH_Type_L1B

DataFieldName	#Dimension (DimList)
EV_250_RefSB	3-D (Band_250M, 40*nscans, 4*Max_EV_frames)

Other MOD02QKM files have similar structure

MOD02SSH

6.

FILENAME: MOD02SSH.A2000055.0000.005.2010041143950.hdf (ftp link: here) (original NASA link: here)(Filesize=7.6MB)
It is a swath file with 1 group and 2 dimension maps.
There are 8 dimension names: 2*nscans(406), 1KM_geo_dim(271), Band_1KM_RefSB(15), 10*nscans(406), Max_EV_frames(271), Band_1KM_Emissive(16), Band_250M(2), Band_500M(5)
There are several 'scales' and 'offsets' attributes for some variables. For data field 'EV_1KM_RefSB'. One can find the following 'scales' and 'offsets' attributes. "radiance_scales", "radiance_offsets", "reflectance_scales" and "reflectance_offsets", etc. Users or tools have to figure out which one they should use.
The 'Latitude' and 'Longitude' are as mentioned in the Geolocation Fields table. 'Latitude' Units: degrees; 'Longitude' Units: degrees. It does not follow CF conventions.
Values of 255, -32767, -1, 0, and 65535 used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: MODIS_SWATH_Type_L1B

DataFieldName	#Dimension (DimList)
Height	2-D (2*nscans, 1KM_geo_dim)

EV_1KM_Emissive	3-D (Band_1KM_Emissive, 10*nscans, Max_EV_frames)

Other MOD02SSH files have similar structure

MODASRVN

7.

FILENAME: MODASRVN.Arica.A2000055.1525.005.2008161234032.hdf (ftp link: here) (original NASA link: here)(Filesize=553KB)

It is a grid file with 1 grid. Namely: grid

It has no geolocation fields, but YDim and XDim are included in the struct metadata.

GridName	DimensionList	Projection
grid	Bands(7), YDim(50), XDim(50)	SNSOID

Some software tools requires extra steps to retrieve latitude and longitude for SNSOID projection

There is neither a 'Fill_Value' attribute nor a 'missing value' attribute. A value of -99999 is probably used for 'Fill_Value.'

GROUP1: grid

DataFieldName	#Dimension (DimList)
SolarZenith	2-D (YDim, XDim)
Albedo	3-D (Bands, YDim, XDim)

Other MODASRVN files have similar structure

MOD03

8.

FILENAME: MOD03.A2000055.0000.005.2010029175839.hdf(ftp link: here) (original NASA link: here) (Filesize=7.44MB)

It is a swath file with 1 group and 0 dimension maps.
This is geolocation HDF-EOS2 files and it contains geolocation information for other swath that uses the dimension map

There are 2 dimension names: nscans*10(2030), mframes(1354)

The 'Latitude' and 'Longitude' are as mentioned in the Geolocation Fields table.
'Latitude' Units: degrees; 'Longitude' Units: degrees. It does not follow CF conventions.

Values of 0 and -32767 are used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: MODIS_SWATH_Type_GEO

DataFieldName	AttributeName	AttributeValue	AttributeType	AttributeArraySize
Latitude	'units' in degrees			
Longitude	'units' in degrees			

GeoFieldName	#Dimension (DimList)
Latitude	2-D (nscans*10, mframes)
Longitude	2-D (nscans*10, mframes)

DataFieldName	#Dimension (DimList)
Height	2-D (nscans*10, mframes)

Other MOD03 files have similar structure

Terra MODIS Level 2

MOD04_L2

9.

FILENAME: MOD04_L2.A2000055.0010.005.2006253050115.hdf (ftp link: here) (original NASA link: here)(Filesize=611KB)

It is a swath file with 1 group and 0 dimension maps.

There are 13 dimension names: Cell_Along_Swath(203), Cell_Across_Swath(135), Solution_1_Land(2), Solution_2_Land(3), Solution_3_Land(3), Solution_4_Land(4), Solution_Ocean(2), Solution_Index(9), MODIS_Band_Land(7), MODIS_Band_Ocean(7), Num_By_Products(7), QA_Byte_Land(5), QA_Byte_Ocean(5)

special usage of scale and offset attributes
There is a 'Slope_and_Offset_Usage' attribute in file properties, which mentioned the conventional HDF usage of

	'scale_factor' and 'add_offset' attributes is: float value = scale_factor*(stored integer - add_offset)
	The 'Latitude' and 'Longitude' are as mentioned in the Geolocation Fields table.
	A value of -9999 is commonly used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: mod04

DataFieldName	#Dimension (DimList)
Cloud_Fraction_Ocean	2-D (Cell_Along_Swath, Cell_Across_Swath)
Aerosol_Cldmask_Byproducts_Ocean	3-D (Num_By_Products, Cell_Along_Swath, Cell_Across_Swath)

	Other MOD04_L2 files have similar structure

MOD05_L2

10.

	FILENAME: MOD05_L2.A2000055.0000.005.2006253044843.hdf (ftp link: here) (original NASA link: here)(Filesize=1.1MB)
	It is a swath file with 1 group and 2 dimension maps.
	There are 6 dimension names: Cell_Along_Swath_1km(2030), Cell_Across_Swath_1km(1354), Cell_Along_Swath_5km(406), Cell_Across_Swath_5km(27), QA_Bytes_IR(5), QA_Bytes_NIR(1)
	special usage of scale and offset attributes There is a 'Slope_and_Offset_Usage' attribute in file properties, which mentioned the conventional HDF usage of 'scale_factor' and 'add_offset' attributes is: float value = scale_factor*(stored integer - add_offset)
	The 'Latitude' and 'Longitude' are as mentioned in the Geolocation Fields table.
	This swath uses the dimension map. Users need to either find the corresponding geolocation HDF-EOS2 files or calculate the latitude/longitude based on dimension map parameters.
	Values of -9999, -32768, and 0 are used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: mod05

DataFieldName	#Dimension (DimList)
Water_Vapor_Near_Infrared	2-D (Cell_Along_Swath_1km, Cell_Across_Swath_1km)
Quality_Assurance_Infrared	3-D (Cell_Along_Swath_5km, Cell_Across_Swath_5km, QA_Bytes_IR)

	Other MOD05_L2 files have similar structure

MOD06_L2

11.

	FILENAME: MOD06_L2.A2000055.0000.005.2006253045251.hdf (ftp link: here) (original NASA link: here)(Filesize=1.6MB)
	It is a swath file with 1 group and 2 dimension maps.
	There are 6 dimension names: Cell_Across_Swath_5km(270), Cell_Along_Swath_5km(406), Cell_Across_Swath_1km(1354), Cell_Along_Swath_1km(2030), Band_Number(7), Band_Ratio(5), Band_Forcing(5), Band_Difference(2), Radius_Difference(2), QA_Parameter_5km(10), QA_Parameter_1km(5), Cloud_Mask_1km_Num_Bytes(2), Statistic_Parameter_1km(20)
	The 'Latitude' and 'Longitude' are as mentioned in the Geolocation Fields table.
	This swath uses the dimension map. Users need to either find the corresponding geolocation HDF-EOS2 files or calculate the latitude/longitude based on dimension map parameters.
	Values of -9999, -32768, 127, and 0 are used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: mod06

DataFieldName	#Dimension (DimList)
Cloud_Top_Temperature	2-D (Cell_Along_Swath_5km, Cell_Across_Swath_5km)
Radiance_Variance	3-D (Band_Number, Cell_Along_Swath_5km, Cell_Across_Swath_5km)

	Other MOD06_L2 , MOD35_L2 files have similar structure

MOD07_L2

12.

	FILENAME: MOD07_L2.A2000055.0000.005.2010041143937.hdf (ftp link: here) (original NASA link: here)(Filesize=1.2MB)
	It is a swath file with 1 group and 0 dimension maps.

	There are 6 dimension names: Cell_Across_Swath(270), Cell_Along_Swath(406), Band_Number(12), Pressure_Level(20), Output_Parameter(10), Water_Vapor_QA_Bytes(5)
	The usage of scale and offset attributes: The common usage of scale and offset attributes is: float value = scale*value+offset . However, in this file, 'float value=scale*(value-offset) makes more sense as the application of both attributes. There is no related attribute or information in the file.
	The 'Latitude' and 'Longitude' are as mentioned in the Geolocation Fields table.
	Values of -9999, -32768, and 0 are used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: mod07

DataFieldName	#Dimension (DimList)
Total_Ozone	2-D (Cell_Along_Swath, Cell_Across_Swath)
Brightness_Temperature	3-D (Band_Number, Cell_Along_Swath, Cell_Across_Swath)

	Other MOD07_L2 files have similar structure

MODARNSS

13.

	FILENAME: MODARNSS.Abracos_Hill.A2000080.1515.005.2007164153544.hdf (ftp link: here) (original NASA link: here)(Filesize=830KB)
	It is a pseudo eos file. It has 37 datasets.
	This is a hybrid file, which means people use HDF4 API to add informaiton on HDF-EOS2 file. Moreover, this swath file does not contain any group. That's why it falls into 'Non-Standard' category.
	The usage of scale and offset attributes: the common usage of scale and offset attributes is: float value = scale*value+offset . However, in this file, 'float value=scale*(value-offset) makes more sense as the application of both attributes. There is no related attribute or information in the file.
	There are latitude and longitude fields. 'Latitude' Units: degrees; 'Longitude' Units: degrees. It does not follow CF conventions.
	A value of 65535 is commonly used for '_FillValue.' The file is missing the 'missing_value' attribute.

Datasets	
DatasetName	#Dimension (DimList)
EV_Band26	2-D (80*23)
EV_250_RefSB	3-D (2*320*90)
EV_1KM_Emissive	3-D (16*80*23)

	Other MODARNSS files have similar structure

MODATML2

14.

	FILENAME: MODATML2.A2000055.0000.005.2006253045900.hdf (ftp link: here) (original NASA link: here)(Filesize=335KB)
	It is a swath file with 1 group and 0 dimension maps.
	There are 5 dimension names: Cell_Across_Swath_5km(406), Cell_Across_Swath_5km(270), Radius_Difference(2), QA_Parameter_5km(5), Byte_Segment(1)
	The usage of scale and offset attributes: the common usage of scale and offset attributes is: float value = scale*value+offset . However, in this file, 'float value=scale*(value-offset) makes more sense as the application of both attributes. There is no related attribute or information in the file.
	The 'Latitude' and 'Longitude' are as mentioned in the Geolocation Fields table. need to apply 'scale_factor' and 'add_offset' attributes on latitude and longitude
	Values of -9999, 127, -32768 and 0 are used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: atml2

DataFieldName	#Dimension (DimList)
Cloud_Optical_Thickness	2-D (Cell_Along_Swath_5km, Cell_Across_Swath_5km)

	Other MODATML2 files have similar structure

MODCSR_G

15.

	FILENAME: MODCSR_G.A2000055.0000.005.2006252083742.hdf (ftp link: here) (original NASA link:

	here)(Filesize=50KB)
	It is a swath file with 1 group and 0 dimension maps.
	There are 6 dimension names: Statistics(9), LW_Statistics(3), Band_Number(27), Size_of_One(1), Number_Cells_Day(0), Number_Cells_Night(4)
	There are no geolocation fields and related information in this file
	A value of -999 is used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: atml2

DataFieldName	#Dimension (DimList)
Land_Water_Night	2-D (Number_Cells_Night, LW_Statistics)
Clear_Radiance_Night	3-D (Number_Cells_Night, Band_Number, Statistics)

	Other MODCSR_G files have similar structure

Terra MODIS Level 3

MOD08_D3

16.

	FILENAME: MOD08_D3.A2000055.005.2006254074717.hdf (ftp link: here) (original NASA link: here)(Filesize=48.9MB)
	It is a grid file with 1 grid. Namely: mod08
	The usage of scale and offset attributes: the common usage of scale and offset attributes is: float value = scale*value+offset . However, in this file, 'float value=scale*(value-offset) makes more sense as the application of both attributes. There is no related attribute or information in the file.
	It has regular dimensions used for latitude and longitude called XDim (360) and YDim (180).

GridName	DimensionList	Projection
grid	Pressure_Level(20), YDim(180), XDim(360) and 62 others	GEO

	A value of -9999 is commonly used for '_FillValue.' This file is missing the 'missing_value' attribute.

GROUP1: mod08

DataFieldName	#Dimension (DimList)
Cirrus_Reflectance_Mean	2-D (YDim, XDim)
Cloud_Effective_Emissivity_Night_Histogram_Counts	3-D (Cloud_Effective_Emissivity_Histo_Intervals, YDim, XDim)
Cloud_Optical_Thickness_Liquid_Joint_Histogram_vs_Effect_Radius	4-D (Cloud_Effective_Radius_Liquid_Joint_Histo_Intervals, Cloud_Optical_Thickness_Liquid_Joint_Histo_Intervals, YDim, XDim)

	Other MOD08 files have similar structure

MODCSR_8

17.

	FILENAME: MODCSR_8.A2000055.005.2006253215923.hdf (ftp link: here) (original NASA link: here)(Filesize=836MB)
	It is a swath file with 1 group and 0 dimension maps.
	There are 4 dimension names: Grid_size(814880), Band_Number(27), Statistics(9), LW_Statistics(3)
	There are no geolocation fields and related information in this file
	A value of 0 is used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: mod_prcsr8

DataFieldName	#Dimension (DimList)
Eight_Day_Land_Water_Composite	2-D (Grid_size, LW_Statistics)

	Other MODCSR_8, MODCSR_D and MODCSR_B files have similar structure