Aqua MODIS Level 1

MYD01

1.

	FILENAME: MYD01.A2002233.2055.005.2010057104302.hdf (ftp link: here) (original NASA link: here)(Filesize=574MB)
	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)

	Other MYD01 files have similar structure

MYD021KM

2.

	FILENAME: MYD021KM.A2002226.0000.005.2009193222735.hdf (ftp link: here) (original NASA link: here) (Filesize=75.4MB)
	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 65535, 255, -1, and -32767 are used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: MODIS_SWATH_Type_L1B

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

GeoFieldName	#Dimension (DimList)
Latitude	2-D (2*nscans, 1KM_geo_dim)
Longitude	2-D (2*nscans, 1KM_geo_dim)

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 MYD021KM files have similar structure

MYD02HKM

3.

	FILENAME: MYD02HKM.A2002193.0000.005.2009192212603.hdf (ftp link: here) (original NASA link: here) (Filesize=155.8MB)
	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 65535, 255, and -1 are used for the ‘_FillValue.’ The file is missing the ‘missing_value’ attribute.

GROUP1: MODIS_SWATH_Type_L1B

DataFieldName	AttributeName	AttributeValue	AttributeType	AttributeArraySize
Latitude	‘units’ in degrees			
Longitude	‘units’ in degrees			

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

DataFieldName	#Dimension (DimList)
EV_500_RefSB	3-D (Band_500M, 20*nscans, 2*Max_EV_frames)
EV_1KM_Emissive	3-D (Band_250M, 20*nscans, 2*Max_EV_frames)

	Other MYD02HKM files have similar structure

MYD02OBC

4.

	FILENAME: MYD02OBC.A2002192.1100.005.2010064095728.hdf (ftp link: here) (original NASA link: here)(Filesize=57.6MB)
	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 (8120*2*200)
SRCA_500m	3-D (4060*5*20)
SV_1km_day	3-D (2030*14*50)
EV_1km_night	3-D (2030*17*50)

	Other MYD02OBC files have similar structure

MYD02QKM

5.

	FILENAME: MYD02QKM.A2002185.0045.005.2009192033047.hdf (ftp link: here) (original NASA link: here) (Filesize=154.3MB)
	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 65535 and 255 are used for the ‘_FillValue.’ The file is missing the ‘missing_value’ attribute.

GROUP1: MODIS_SWATH_Type_L1B

DataFieldName	AttributeName	AttributeValue	AttributeType	AttributeArraySize
Latitude	‘units’ in degrees			

Longitude	'units' in degrees

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

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

Other MYD02QKM files have similar structure

MYD02SSH

6.

FILENAME: MYD02SSH.A2002184.2200.005.2007051064029.hdf (ftp link: here) (original NASA link: here) (Filesize=15.4MB)
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 65535, 255, -1, and -32767 are used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: MODIS_SWATH_Type_L1B

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

GeoFieldName	#Dimension (DimList)
Latitude	2-D (2*nscans, 1KM_geo_dim)
Longitude	2-D (2*nscans, 1KM_geo_dim)

DataFieldName	#Dimension (DimList)
Height	2-D (2*nscans, 1KM_geo_dim)
EV_1KM_RefSB	3-D (Band_1KM_RefSB, 10*nscans, Max_EV_frames)
EV_1KM_Emissive	3-D (Band_1KM_Emissive, 10*nscans, Max_EV_frames)

Other MYD02SSH files have similar structure

MYD03

7.

FILENAME: MYD03.A2002184.2205.005.2007050174658.hdf (ftp link: here) (original NASA link: here) (Filesize=15.4MB)
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, 255, 32767, 221, 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 MYD03 files have similar structure

Aqua MODIS Level 2

MYD04_L2

8.

FILENAME: MYD04_L2.A2002184.2200.005.2007068182321.hdf (ftp link: here) (original NASA link: here) (Filesize=748KB)

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

There are 14 dimension names: Cell_Along_Swath(203), Cell_Across_Swath(135), Solution_3_Land(3), Solution_1_Land(1), Solution_2_Land(3), Solution_4_Land(4), MODIS_Band_Land(7), QA_Byte_Land(5), Num_By_Products(7), Solution_Ocean(2), MODIS_Band_Ocean(7), Solution_Index(9), QA_Byte_Ocean(5), Num_DeepBlue_Wavelengths(3)

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	AttributeName	AttributeValue	AttributeType	AttributeArraySize
Latitude	'units' in Degrees_north			
Longitude	'units' in Degrees_east			

GeoFieldName	#Dimension (DimList)
Latitude	2-D (Cell_Along_Swath, Cell_Across_Swath)
Longitude	2-D (Cell_Along_Swath, Cell_Across_Swath)

DataFieldName	#Dimension (DimList)
Optical_Depth_Land_And_Ocean	2-D (Cell_Along_Swath, Cell_Across_Swath)
Mean_Reflectance_Ocean	3-D (MODIS_Band_Ocean, Cell_Along_Swath, Cell_Across_Swath)

Other MYD04_L2 files have similar structure

MYD05_L2

9.

FILENAME: MYD05_L2.A2002184.2200.005.2007068182040.hdf (ftp link: here) (original NASA link: here) (Filesize=5.8MB)

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(270), 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	AttributeName	AttributeValue	AttributeType	AttributeArraySize
Latitude	'units' in degrees_north			
Longitude	'units' in degrees_east			

GeoFieldName	#Dimension (DimList)
Latitude	2-D (Cell_Along_Swath_5km, Cell_Across_Swath_5km)
Longitude	2-D (Cell_Along_Swath_5km, Cell_Across_Swath_5km)

DataFieldName	#Dimension (DimList)
Water_Vapor_Near_Infrared	2-D (Cell_Along_Swath_1km, Cell_Across_Swath_1km)

Other MYD05_L2 files have similar structure

MYD06_L2

10.

FILENAME: MYD06_L2.A2002184.2200.005.2006134040020.hdf (ftp link: here) (original NASA link: here) (Filesize=39MB)
It is a swath file with 1 group and 2 dimension maps.
There are 13 dimension names: Cell_Along_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: mod04

DataFieldName	AttributeName	AttributeValue	AttributeType	AttributeArraySize
Latitude	'units' in degrees_north			
Longitude	'units' in degrees_east			

GeoFieldName	#Dimension (DimList)
Latitude	2-D (Cell_Along_Swath_5km, Cell_Across_Swath_5km)
Longitude	2-D (Cell_Along_Swath_5km, Cell_Across_Swath_5km)

DataFieldName	#Dimension (DimList)
Surface_Pressure	2-D (Cell_Along_Swath_5km, Cell_Across_Swath_5km)
Spectral_Cloud_Forcing	3-D (Band_Forcing, Cell_Along_Swath_5km, Cell_Across_Swath_5km)

Other MYD06_L2 , MYD35_L2 files have similar structure

MYD07_L2

11.

FILENAME: MYD07_L2.A2002184.2200.005.2006133121629.hdf (ftp link: here) (original NASA link: here) (Filesize=4.4MB)
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, 127, and 0 are used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: mod07

DataFieldName	AttributeName	AttributeValue	AttributeType	AttributeArraySize
Latitude	'units' in degrees_north			

Longitude	'units' in degrees_east

GeoFieldName	#Dimension (DimList)
Latitude	2-D (Cell_Along_Swath, Cell_Across_Swath)
Longitude	2-D (Cell_Along_Swath, Cell_Across_Swath)

DataFieldName	#Dimension (DimList)
Surface_Pressure	2-D (Cell_Along_Swath, Cell_Across_Swath)
Brightness Temperature	3-D (Band_Number, Cell_Along_Swath, Cell_Across_Swath)

Other MYD07_L2 files have similar structure

MYDARNSS

12.

FILENAME: MYDARNSS.Barrow.A2002184.2200.005.2007051063709.hdf (ftp link: here) (original NASA link: here)(Filesize=1MB)

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 (60*41)
EV_250_RefSB	3-D (2*240*164)
EV_1KM_Emissive	3-D (16*60*41)

Other MODARNSS files have similar structure

MYDCSR_G

13.

FILENAME: MYDCSR_G.A2002184.2200.005.2006133125023.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: Statistics(9), LW_Statistics(3), Band_Number(27), Size_of_One(1), Number_Cells_Day(1995), Number_Cells_Night(0)

The 'Latitude' and 'Longitude' are not found in the Geolocation Fields table.

Values of -9999, and 0 are used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: mod35_clrrad

DataFieldName	#Dimension (DimList)
Land_Water_Day	2-D (Number_Cells_Day, LW_Statistics)
Clear_Radiance_Day	3-D (Number_Cells_Day, Band_Number, Statistics)

Other MYDCSR_G files have similar structure

MYDATML_2

14.

FILENAME: MYDATML2.A2002184.2200.005.2007068182350.hdf (ftp link: here) (original NASA link: here)(Filesize=2.3MB)

It is a swath file with 1 group and 2 dimension maps.

There are 11 dimension names: Cell_Along_Swath_5km(406), Cell_Across_Swath_5km(270), Radius_Difference(2), QA_Parameter_5km(5), Byte_Segment(1), Cell_Along_Swath_10km(203), Cell_Across_Swath_10km(135), Solution_Ocean(1), Num_DeepBlue_Wavelengths(1), QA_Byte_Land(1), QA_Byte_Aerosol(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
	A value of -9999 is commonly used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: atml2

DataFieldName	AttributeName	AttributeValue	AttributeType	AttributeArraySize
Latitude	'units' in degrees_north			
Longitude	'units' in degrees_east			

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

	Other MYDATML2 files have similar structure

Aqua MODIS Level 3

MYD08_D3

15.

	FILENAME: MYD08_D3.A2002184.005.2007069151451.hdf (ftp link: here) (original NASA link: here)(Filesize=18.4MB)
	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
mod08	XDim(360),YDim (180), Pressure_Level(20), and 66 others	GEO

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

GROUP1: mod08

DataFieldName	AttributeName	AttributeValue	AttributeType	AttributeArraySize
YDim	either of 'units,' 'unit' or 'long_name' not there			
XDim	either of 'units,' 'unit' or 'long_name' not there			

DataFieldName	#Dimension (DimList)
Cloud_Optical_Thickness_Ice_Mean	2-D (YDim, XDim)
Cloud_Water_Path_Ice_Histogram_Counts	3-D (Cloud_Water_Path_Ice_Histo_Intervals, YDim, XDim)
Correct_Optical_Depth_Land_Histogram_Counts	4-D (Corrected_Optical_Depth_Land_Micron_Levels, Corrected_Optical_Depth_Land_Histo_Intervals, YDim, XDim)

	Other MYD08 files have similar structure

MYDCSR_8

16.

	FILENAME: MYDCSR_8.A2002184.005.2006134033442.hdf (ftp link: here) (original NASA link: here)(Filesize=803MB)
	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.
	A value of 0 is commonly used for the '_FillValue.' The file is missing the 'missing_value' attribute.

GROUP1: mod_prcsr8

DataFieldName	#Dimension (DimList)
Eight_Day_Clear_Radiance_Band_30	2-D (Grid_size, Statistics)

	Other MYDCSR_8, MYDCSR_D and MYDCSR_B files have similar structure