

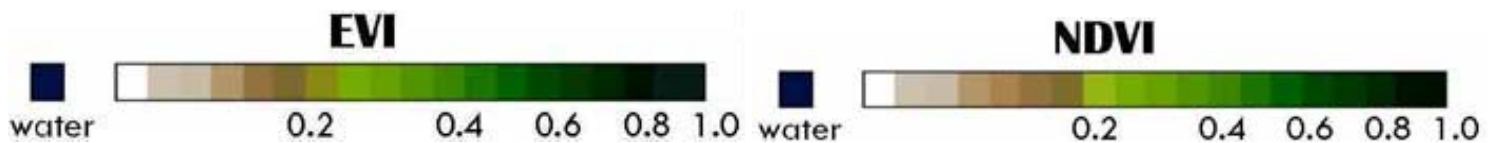
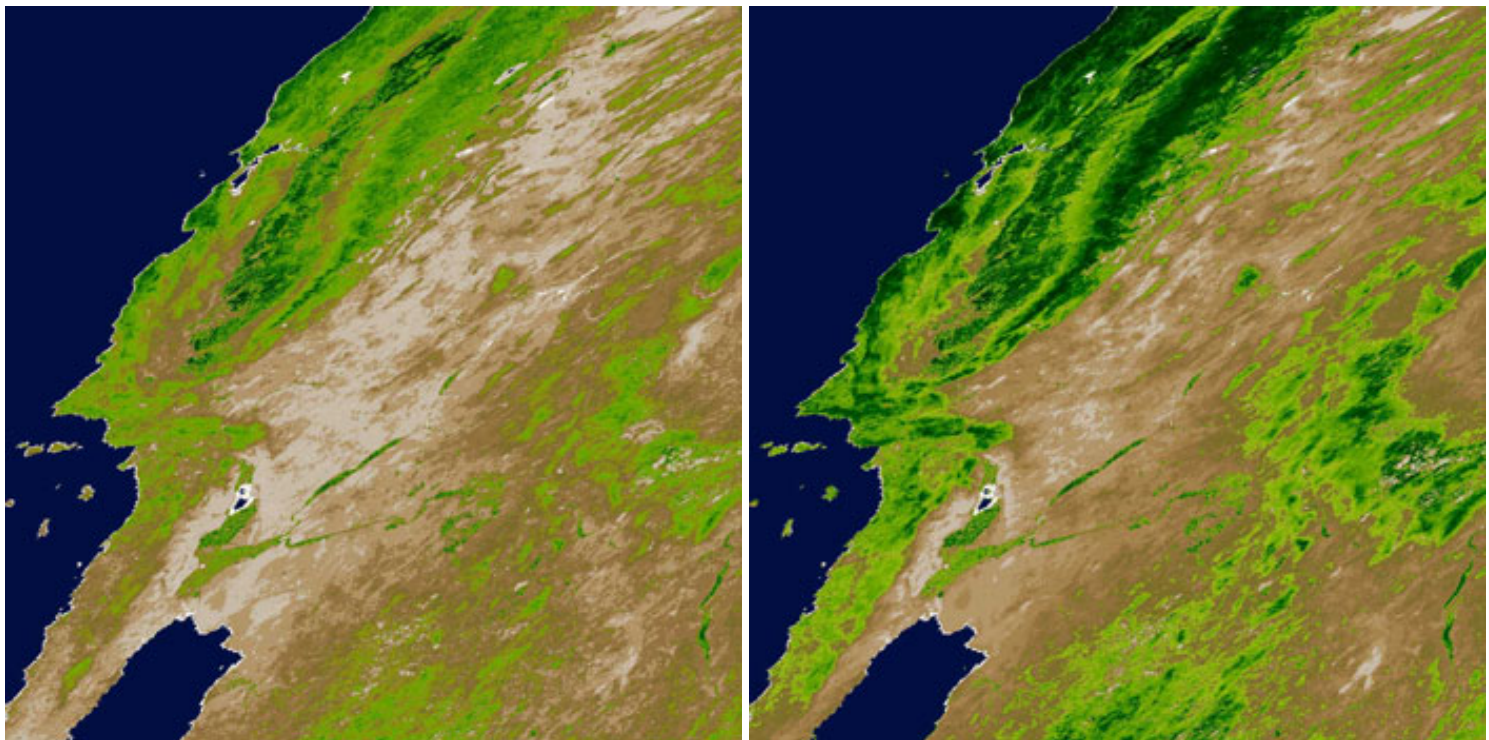
**EDG Data Set Name**

MODIS/Aqua Vegetation Indices Monthly L3 Global 1km SIN Grid

Granule Shortname

MYD13A3

Version	Acquisition Range	Science Quality Status
V004	July 4 2002 (2002185)	Provisional

MODIS Level 3 Tile h08v05, July 12 2002**Data Set Characteristics**

Area = ~ 10° x 10° lat/long
 Image Dimensions = 2 (1200x1200 row/column)
 Average File Size = 32 MB
 Resolution = 1 km
 Projection = Sinusoidal
 Data Format = HDF-EOS
 Science Data Sets (SDSs) = 11

Product Description

The MYD13A3 image shown is a sample of the MODIS Level 3 monthly composite of Vegetation Indices at 1km resolution that has been pseudo-colored. This product uses, as input, the 16 days MODIS Vegetation Index and

composited surface reflectance (MYD13A2 product). All available 16 days MODIS VI products (a maximum of 3) that overlap the calendar month are used. A temporal averaging scheme is used to generate the monthly product. Each 16 day product is weighted by the number of actual days that overlap the month being processed. Two vegetation index (VI) algorithms are produced globally for land. One is the standard normalized difference vegetation index (NDVI), which is referred to as the "continuity index" to the existing NOAA-AVHRR derived NDVI. The other is an 'enhanced' vegetation index with improved sensitivity into high biomass regions and improved vegetation monitoring through a de-coupling of the canopy background signal and a reduction in atmosphere influences. The two VIs compliment each other in global vegetation studies and improve upon the extraction of canopy biophysical parameters.

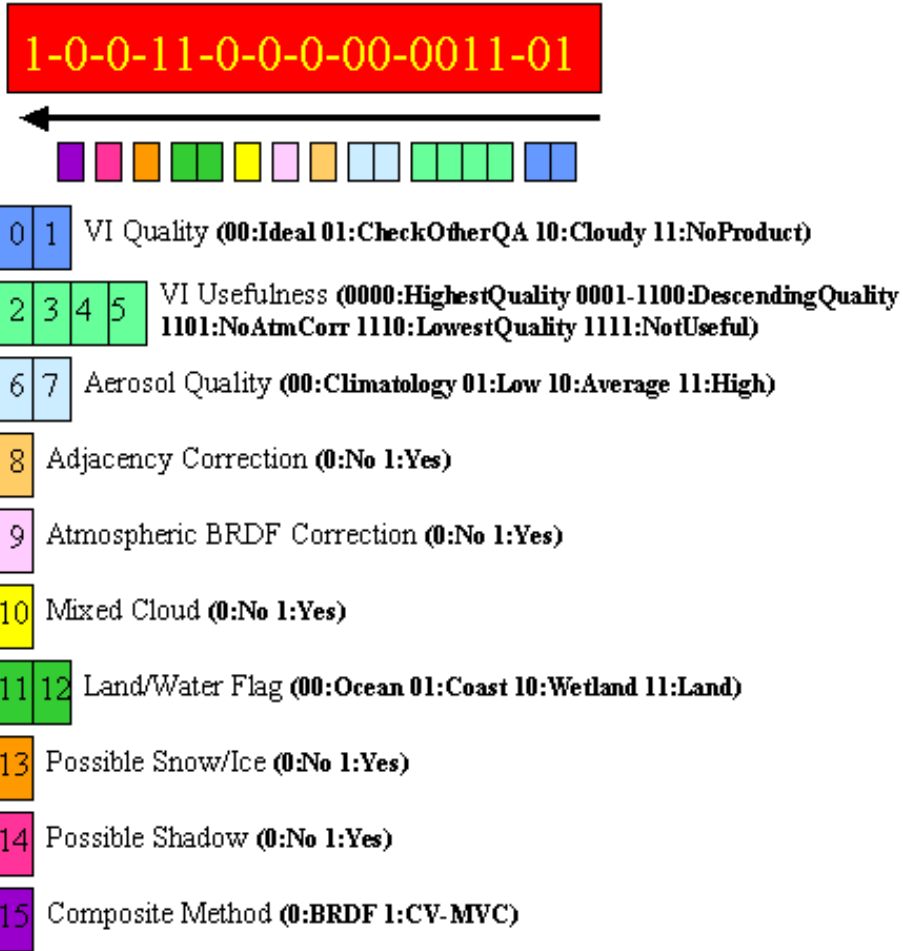
The compositing method used is a simple temporal averaging scheme adjusted for temporal overlap. The algorithm will produce the monthly surface reflectance first from the sixteen-day composite surface reflectance (red, NIR, blue and MIR) in the MYD13A2 product, then derives the VI (NDVI/EVI) products. No sixteen day VI data is used in this product, only the surface reflectance. A worst case scenario is used to generate the per-pixel quality information. The gridded vegetation indices will include quality assurance (QA) flags with statistical data that indicate the quality of the VI product and input data. Due to their simplicity, ease of application, and widespread familiarity, vegetation indices have a wide range of use within the user community. Some of the more common applications may include global biogeochemical and hydrologic modeling, agricultural monitoring and forecasting, land-use planning, land cover characterization, and land cover change detection.

NOTE: These products are still experimental in nature upon their initial release. Investigations are underway to assess the scientific validity of these products.

Each VI product contains 11 parameters, listed below:

SDS	Units	Data Type-bit	Fill Value	Valid Range	Divide by SCALE FACTOR
1km monthly NDVI	NDVI	16-bit signed integer	-3000	-2000 - 10000	10000
1km monthly EVI	EVI	16-bit signed integer	-3000	-2000 - 10000	10000
*1km monthly NDVI Quality	bit field	16-bit unsigned integer	65535	0 -v65535	na
*1km monthly EVI Quality	bit field	16-bit unsigned integer	65535	0 -v65535	na
1km monthly red reflectance MODIS Band # 1, 620 - 670 nm	reflectance	16-bit signed integer	-1000	0 - 10000	10000
1km monthly NIR reflectance MODIS Band # 2, 841- 876 nm	reflectance	16-bit signed integer	-1000	0 - 10000	10000
1km monthly blue reflectance MODIS Band # 3, 459 - 479 nm	reflectance	16-bit signed integer	-1000	0 - 10000	10000
1km monthly MIR reflectance MODIS Band # 7, 2105-2155 nm	reflectance	16-bit signed integer	-1000	0 - 10000	10000
1km monthly average view zenith angle View zenith of the chosen pixel	degree	16-bit signed integer	-10000	-9000 - 9000	100
1km monthly average sun zenith angle Sun zenith of the chosen pixel	degree	16-bit signed integer	-10000	-9000 - 9000	100
1km monthly average relative azimuth angle Relative Azimuth of the chosen pixel	degree	16-bit signed integer	-4000	-3600 - 3600	10

MODIS VI QA bit layout



*Quality Control Bit Index

Bit	Description
0-1	NDVI quality
	00 NDVI produced, good quality;
	01 NDVI produced, but check QA
	10 produced but most likely cloudy pixel
	11 pixel not produced due to other reasons than clouds
2-5	VI usefulness four bit range 0= highest quality
	13 no atmospheric correction performed
	14 quality too low to be useful
	15 not useful for any other reason
6-7	aerosol quantity:
	00 climatology
	01 low

	10 average
	11 high
8	1 yes adjacency correction performed
	0 no adjacency correction performed
9	1 yes atmosphere BRDF correction performed
	0 no atmosphere BRDF correction performed
10	1 yes mixed clouds
	0 no mixed clouds
11-12	land/water flag
	00 ocean
	01 coast
	10 wetland
	11 land
13	1 yes possible snow/ice
	0 no possible snow/ice
14	1 yes possible shadow
	0 no possible shadow
15	composite method for NDVI
	0 BRDF model based nadir equivalent VI
	1 CVMVC (constraint view angle maximum value VI)

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NEW Retrieve the MYD13A3v4 MODIS product through the [LP DAAC Data Pool](#)

Via Search Tool: <http://e0dps01u.ecs.nasa.gov:22000/OPS/drill?attrib=esdt&esdt=MYD13A3.4&group=MOLA>

Via FTP Directory: <ftp://e0dps01u.ecs.nasa.gov/MOLA/MYD13A3.004/>

Order Data through the EOS Data Gateway

(<http://edcimswww.cr.usgs.gov/pub/imswelcome/>)

EOS Data Gateway Search Tips

Source: Aqua
Sensor: MODIS
Dataset: MODIS/Aqua Vegetation Indices Monthly L3 Global 1km SIN Grid
Spatial: HORIZONTALTILENUMBER Max/Min VERTICALTILENUMBER Max/Min
Geographic Extent: Type Lat/Long Range or Draw on Map
Temporal Extent: 2002-07-04 to present (V004)

Product Information

[Product Description](#)

(<http://modis-land.gsfc.nasa.gov/products/products.asp?ProdFamID=6>)

[User Guide](#)

(http://tbrs.arizona.edu/project/MODIS/UserGuide_doc.php)

[More Info on MODIS VI](#)

<http://tbrs.arizona.edu/cdrom/Index.html>

[Algorithm Theoretical Basis Document \(ATBD\)](#)

(http://modis.gsfc.nasa.gov/data/atbd/land_atbd.html)

[MODIS Standard Data Products Catalog](#)

(<http://modis.gsfc.nasa.gov/data/dataproducts.html>)

[EOS Data Products Handbook Volume 2 \(2000\)](#)

(http://eospsos.gsfc.nasa.gov/eos_homepage/for_scientists/data_products/vol2.php)

Contact Information

[LP DAAC User Services](#)

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