



EDG Data Set Name

MODIS/Terra Vegetation Indices 16-Day L3 Global 500m SIN Grid

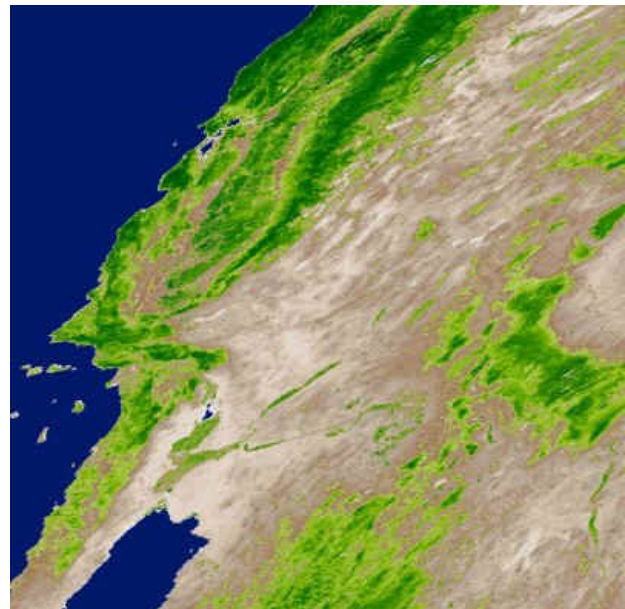
Granule Shortname

MOD13A1

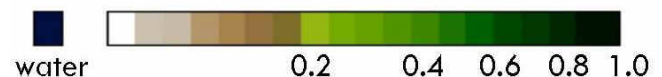
Version	Acquisition Range	Science Quality Status
V001	March 21,2000 (2000081) – February 18, 2001 (2001049)	Beta as of Jun 09,2000 Provisional as of Nov 24, 2000
V003	November 1, 2000 (2000306) – December 31, 2002 (2002365)	Provisional as of Nov 1, 2000
V004	February 24, 2000 (2000055)	Stage 2 Validation



EVI



NDVI



MODIS Level 3 Tile h08v05, August 12, 2001

Data Set Characteristics

- Area = ~ 10° x 10° lat/long
- Image Dimensions = 2 (2400x2400 row/column)
- Average File Size = 128 MB
- Resolution = 500 meters
- Projection = Sinusoidal
- Data Format = HDF-EOS
- Science Data Sets (SDSs) = 11

Product Description

The MOD13A1 image shown is a sample of the MODIS Level 3 16-day composite of Vegetation Indices at 500m

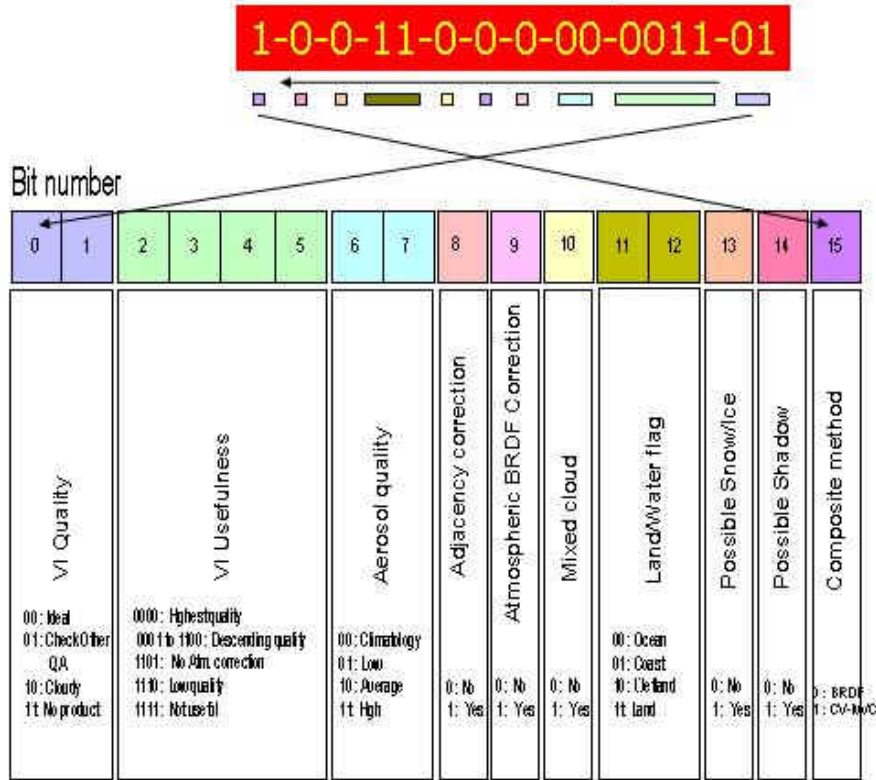
resolution that has been pseudo-colored. This product uses, as input, MODIS Terra surface reflectances corrected for molecular scattering, ozone absorption, and aerosols. Two vegetation index (VI) algorithms are produced globally for land. One is the standard normalized difference vegetation index (NDVI), 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. A new compositing scheme that reduces angular, sun-target-sensor variations with an option to use BRDF models is utilized. The gridded vegetation indices 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 usage 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 validated, meaning that product uncertainties are well defined over a range of representative conditions. Although there may be later improved versions, these data are ready for use in scientific publications.

Each VI product contains 11 parameters, listed below:

SDS	UNITS	DATA TYPE-bit	FILL VALUE	VALID RANGE	Divide by SCALE FACTOR
500m 16 days NDVI	NDVI	16-bit signed integer	-3000	-2000 - 10000	10000
500m 16 days EVI	EVI	16-bit signed integer	-3000	-2000 - 10000	10000
*500m 16 days NDVI Quality	bit field	16-bit unsigned integer	65535	0 - 65536	na
*500m 16 days EVI Quality	bit field	16-bit unsigned integer	65535	0 - 65536	na
500m 16 days red reflectance MODIS Band # 1, 620 - 670 nm	reflectance	16-bit signed integer	-1000	0 - 10000	10000
500m 16 days NIR reflectance MODIS Band # 2, 841- 876 nm	reflectance	16-bit signed integer	-1000	0 - 10000	10000
500m 16 days blue reflectance MODIS Band # 3, 459 - 479 nm	reflectance	16-bit signed integer	-1000	0 - 10000	10000
500m 16 days MIR reflectance MODIS Band # 7, 2105- 2155 nm	reflectance	16-bit signed integer	-1000	0 - 10000	10000
500m 16 days average view zenith angle View zenith of the chosen pixel	degree	16-bit signed integer	-10000	-9000 - 9000	100
500m 16 days average sun zenith angle Sun zenith of the chosen pixel	degree	16-bit signed integer	-10000	-9000 - 9000	100
500m 16 days 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)

Order Data through the EOS Data Gateway

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

EOS Data Gateway Search Tips

Data Center: EDC-ECS
Sensor: MODIS
Dataset: MODIS/Terra Vegetation Indices 16-Day L3 Global 500m SIN Grid
Spatial: HORIZONTALTILENUMBER Max/Min VERTICALTILENUMBER Max/Min
Geographic Extent: Type Lat/Long Range or Draw on Map
Temporal Extent: 2000-02-24 to present

Retrieve Data through the LP DAAC Data Pool

(<http://edcdaac.usgs.gov/tutorial/datapool.html>)

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 \(ATBD\) - Download Adobe Acrobat Reader](#)

(http://modis-land.gsfc.nasa.gov/pdfs/atbd_mod13.pdf)

[MODIS Standard Data Products Catalog](#)

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

[EOS Data Products Handbook Volume 1 \(2000\)](#)

(http://eosps0.gsfc.nasa.gov/eos_homepage/misc_html/data_prod.html)

Contact Information

[LP DAAC User Services](#)

U.S. Geological Survey

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URL: <http://LPDAAC.usgs.gov/modis/mod13a1v4.html>

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