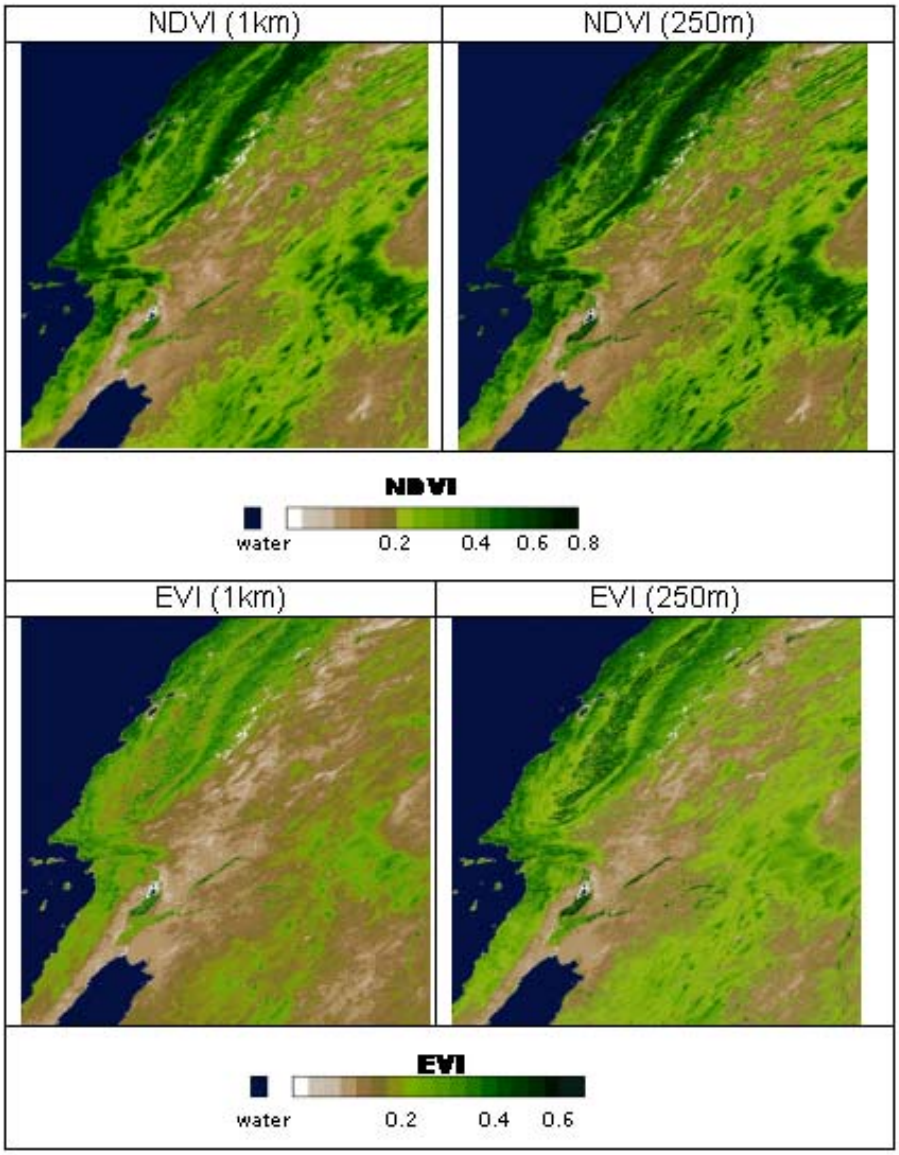

EDG Data Set Name
MODIS/Terra Vegetation Indices 16-Day L3 Global 250m ISIN Grid

Granule Shortname
MOD13Q1

Data Set Characteristics
Area = ~ 10° x 10° lat/long
Size = 4800 x 4800 rows/columns
File Size = ~500 MB (variable)
Resolution = 250 meters
Projection = Integerized Sinusoidal
Data Format = HDF-EOS
Science Data Sets (SDSs) = 11

Product Description
The MODIS Vegetation Indices (VI) are robust spectral measures of the amount of vegetation present on the ground. They involve transformations of the red (620-670 nm), near-infrared (841-876 nm), and blue (459-479nm) bands designed to enhance the "vegetation signal" and allow for precise inter-comparisons of spatial and temporal variations in terrestrial photosynthetic activity. The VI products contain two indices, the Normalized Difference Vegetation Index (NDVI) and a new Enhanced Vegetation Index (EVI). Each MOD13Q1 product includes VI quality information in addition to composited surface reflectance bands 1-3 and 7 (red, NIR, blue, and MIR (2105-2155nm)). The NDVI output represents a "continuity index" to NOAA's existing AVHRR-derived NDVI. The EVI is MODIS-specific and offers improved sensitivity in high biomass regions and improved vegetation monitoring through a de-coupling of the canopy background signal and a reduction in atmospheric influences. A new compositing scheme is utilized which reduces angular, sun-target-sensor variations, using the Constrained View Maximum Value Composite (CV-MVC) and an option to use BRDF models. The two VIs complement each other in vegetation studies and improve upon the extraction of canopy biophysical parameters.

The MOD13Q1 product shown above is a sample of the MODIS Level 3 16-day composite of NDVI/EVI at 250m resolution over the Southwestern USA in late May 2001 (compared to the same product at 1km). A green-brown linear color table was applied to the data set for contrast emphasis.

NOTE: The MOD13Q1 is currently released as a research product, with the expectation of becoming a full application product following science team validation. The 250m MODIS VI will be limited to North and South America and later increased to cover most of the globe.

SDS	UNITS	DATA TYPE-bit	FILL VALUE	VALID RANGE	SCALE FACTOR
250 m 16 days NDVI	NDVI	16-bit signed int	-3000	-2000-10000	10000
250 m 16 days EVI	EVI	16-bit signed int	-3000	-2000-10000	10000
250 m 16 days NDVI Quality	bit field	16-bit unsigned integer	65535	na	na
250 m 16 days EVI Quality	bit field	16-bit unsigned integer	65535	na	na
250 m 16 days Red Reflectance	relectance	16-bit signed int	-1000	0-10000	10000
250 m 16 days NIR Reflectance	relectance	16-bit signed int	-1000	0-10000	10000
250 m 16 days Blue Reflectance	relectance	16-bit signed int	-1000	0-10000	10000
250 m 16 days MIR Reflectance	relectance	16-bit signed int	-1000	0-10000	10000
250 m 16 days View Zenith Angle	degree	16-bit signed int	-10000	-9000-9000	100
250 m 16 days Solar Zenith Angle	degree	16-bit signed int	-10000	-9000-9000	100
250 m 16 days Relative Azimuth Angle	degree	16-bit signed int	-4000	-3600-3600	10

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 250m ISIN Grid
Geographic Extent: Type Lat/Long Range or Draw on Map
Temporal Extent: 2000-06-09 to present

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)

Algorithm Theoretical Basis Document (ATBD)
(http://eospso.gsfc.nasa.gov/atbd/modistables.html)

MODIS Standard Data Products Catalog
(http://modis.gsfc.nasa.gov/data/dataprod/descchart.html)

EOS Data Products Handbook Volume 1 (2000)
(http://eospso.gsfc.nasa.gov/eos_homepage/misc_html/data_prod.html)

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