

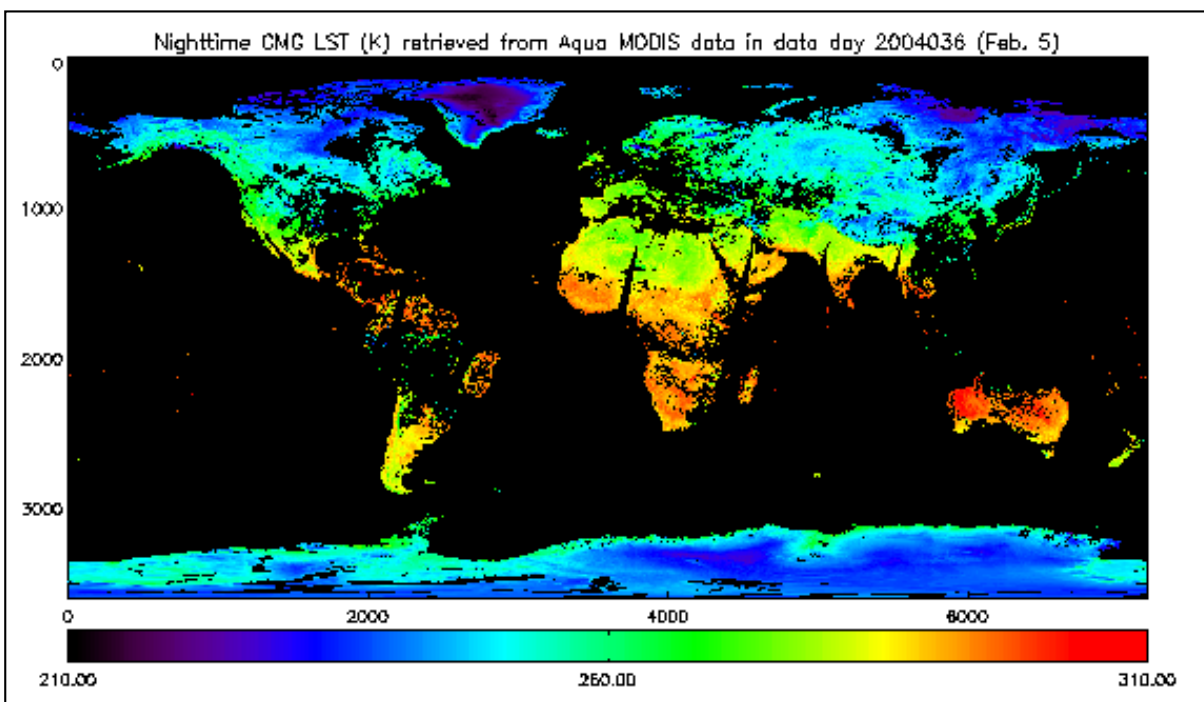
**EDG Data Set Name**

MODIS/Aqua Land Surface Temperature/Emissivity Daily L3 Global 0.05Deg CMG

Granule Shortname

MYD11C1

Version	Acquisition Range	Science Quality Status
V003	June 2, 2003 (2003153) - February 1 2004 (2004032)	Provisional
V004	July 4 2002 (2002185)	Provisional

**Data Set Characteristics**

Area = Global

Image Dimensions= 2 (3600 X 7200 row/column)

Average File Size = ~440 MB

Resolution = 0.05 degrees (~5.6 km at the Equator)

Projection = Latitude/Longitude Grid

Land Surface Temperature (LST) Data Type = 16-bit unsigned integer

Emissivity Data Type = 8-bit unsigned integer

Data Format = HDF-EOS

Science Data Sets (SDS) = 15

Product Description

This MODIS Land Surface Temperature and Emissivity (LST/E) daily global product (MYD11C1) provides temperature and emissivity values at 0.05 degree latitude/longitude climate model grids (CMG). The temperature and emissivity values are derived by reprojection and average of the values in the daily MODIS LST/E product ([MYD11B1](#)) at 5km equal area grids in the sinusoidal projection.

Before making reprojection in the production of MYD11C1, cloud-contaminated daytime and nighttime LSTs are removed by the double-screen scheme, which is described in paper titled "Validation of the land-surface temperature products

retrieved from Terra Moderate Resolution Imaging Spectroradiometer data," by Z. Wan, Y. Zhang, Q. Zhang, and Z.-L. Li, in Remote Sens. Environ., 83, 163-180 (2002). The temperature products in turn are key inputs to many of the high level MODIS products and provide data for global temperature mapping and change observation. On land, soil and canopy temperature are among the main determinants of the rate of growth of vegetation and they govern seasonal start and termination of growth. Hydrologic processes such as evapotranspiration and snow and ice melt are highly sensitive to surface temperature fluctuation, which is also an important discriminating factor in classification of land surface types.

The false-colored MYD11C1 image shown was retrieved from MODIS data of February 5 2004. It is an example of the MODIS Level 3 LST daily product at 0.05 degree resolution.

NOTE: This product is still experimental in nature upon its initial release. More investigations are underway to assess the scientific quality.

SDS	Units	Data Type -bit	Fill Value	Valid Range	Multiply by Scaling Factor	Add ADDITIONAL OFFSET
Daily daytime 3min CMG Land-surface Temperature	Kelvin	16-bit unsigned integer	0	7500 - 65535	0.0200	na
*Quality control for daytime LST and emissivity	na	8-bit unsigned integer	0	0 - 255	na	na
Time of daytime LST observation (UTC)	Hrs	8-bit unsigned integer	0	0 - 120	0.2000	na
View zenith angle of daytime Land-surface Temperature	Degree	8-bit unsigned integer	255	0 - 130	1.0000	-65.00
Daily nighttime 3min CMG Land-surface Temperature	Kelvin	16-bit unsigned integer	0	7500 - 65535	0.0200	na
Quality control for nighttime LST and emissivity	na	8-bit unsigned integer	0	0 - 255	na	na
Time of nighttime LST observation (UTC)	Hrs	8-bit unsigned integer	0	1 - 120	0.2000	na
View zenith angle of nighttime Land-surface Temperature	Degree	8-bit unsigned integer	255	0 - 130	1.0000	-65.00
Band 20 emissivity	na	8-bit unsigned integer	0	1 - 255	0.0020	0.49
Band 22 emissivity	na	8-bit unsigned integer	0	1 - 255	0.0020	0.49
Band 23 emissivity	na	8-bit unsigned integer	0	1 - 255	0.0020	0.49
Band 29 emissivity	na	8-bit unsigned integer	0	1 - 255	0.0020	0.49
Band 31 emissivity	na	8-bit unsigned integer	0	1 - 255	0.0020	0.49
Band 32 emissivity	na	8-bit unsigned integer	0	1 - 255	0.0020	0.49

Quality control for retrieved emissivities (only Fillvalue in V003)	na	8-bit unsigned integer	0	0 - 255	na	na
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* Quality Control Bit Index

bit	Long Name	Key
00-01	Mandatory QA flags	00=LST produced, good quality, not necessary to examine more detailed QA 01=LST produced, other quality, recommend examination of more detailed QA 10=LST not produced due to cloud effects 11=LST not produced primarily due to reasons other than cloud
02-03	Data quality flag	00=good data quality 01=other quality data 10=LST affected by nearby clouds and/or sub-grid clouds and/or ocean 11=LST screened off
04-05	Emis Error flag	00=average emissivity error <= 0.01 01=average emissivity error <= 0.02 10=average emissivity error <= 0.04 11=average emissivity error > 0.04
06-07	LST Error flag	00=average LST error <= 1K 01=average LST error <= 2K 10=average LST error <= 3K 11=average LST error > 3K

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NEW Retrieve the MYD11C1v4 MODIS product through the [LP DAAC Data Pool](#)

Via Search Tool: <http://e0dps01u.ecs.nasa.gov:22000/OPS/drill?attrib=esdt&esdt=MYD11C1.4&group=MOLA>

Via FTP Directory: <ftp://e0dps01u.ecs.nasa.gov/MOLA/MYD11C1.004/>

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 Land Surface Temperature/Emissivity Daily L3 Global 0.05Deg CMG
Spatial: HORIZONTALTILENUMBER Max/Min VERTICALTILENUMBER Max/Min
Geographic Extent: Global
Temporal Extent: 2003-06-02 to 2002-02-01 (V003); 2002-07-04 to present (V004)

Product Information

[Product Description](#)

(<http://modis-land.gsfc.nasa.gov/products/products.asp?ProdFamID=8>)

[User Guide](#)

(<http://modis-fire.gsfc.nasa.gov/>)

[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://eosps0.gsfc.nasa.gov/eos_homepage/for_scientists/data_products/vol2.php)

Contact Information

[LP DAAC User Services](#)

U.S. Geological Survey

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URL: <http://LPDAAC2.usgs.gov/modis/myd11c1v4.asp>

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