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EDG Data Set Name

MODIS/Terra Thermal Anomalies/Fire Daily L3 Global 1km ISIN Grid

Granule Shortname

MOD14A1

Data Set Characteristics

Area = ~10° X 10° latitude/longitude

Size = 1200 X 1200 rows/columns

File Size = ~50MB

Resolution = 1 kilometer

Projection = Integerized Sinusoidal

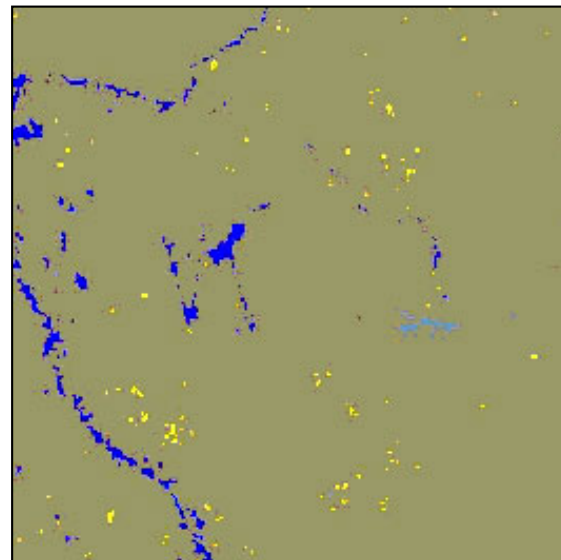
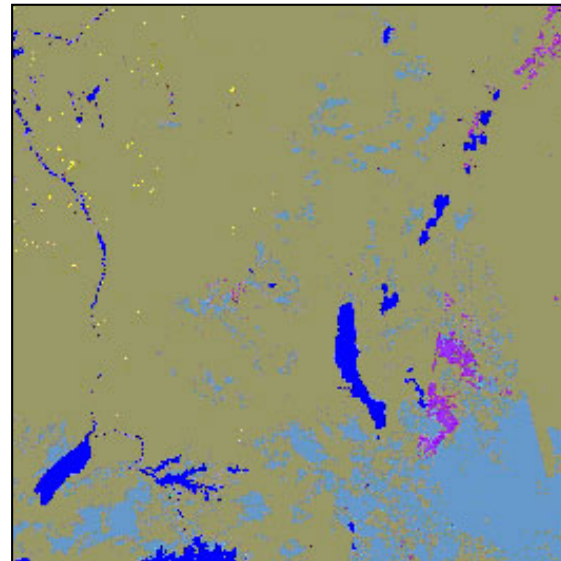
Data Type Fire Mask = 8-bit unsigned

Data Format = HDF-EOS

Science Data Sets (SDSs) = 2

Dimensions = 3 (row X column X day)

Pixel Value	Color	Meaning
0	Black	not processed (missing input data)
2	Dk Brown	not processed (other reason)
3	Dk Blue	water
4	Lt Blue	cloud
5	Beige	no fire
6	Purple	unknown
7	Yellow	low-confidence fire
8	Yellow	nominal-confidence fire
9	Red	high-confidence fire



MOD14A1 scene along the Sudan-Ethiopia border on Dec. 1, 2000. Fires are visible as yellow pixels in the top left of the upper image, which is enlarged as the image on the bottom. See table for color interpretation.

Product Description

MOD14A1 is one of MODIS' 3-D data products. In addition to X- and Y-dimensions, Level 3 Daily fire products include 8 separate days of data detailing pixels according to their level of confidence as fires. The Fire Mask contains eight, band (day) sequential, 1200 x 1200 images of fire data representing consecutive days of data collection. The images above have been pseudo-colored to display one of the eight days of fire data in a granule of MOD14A1.

The Terra MODIS instrument acquires data twice daily (10:30 am and 10:30 pm), as will the Aqua MODIS (2:30 pm and 2:30 am). These four daily MODIS observations will advance global fire monitoring with 1 km resolution fire channels centered at the 4 and 11 micrometer wavelengths. Fire detection in the MODIS Thermal Anomalies/Fire products is performed using channel brightness temperatures from those wavelengths. The fire detection strategy is based on absolute detection of the fire (if the fire is strong enough) and on detection relative to the background to account for

variability of the surface temperature and reflection by sunlight. MODIS data will also be used to monitor burn scars, vegetation type and condition, smoke aerosols, water vapor and clouds for overall monitoring of the fire process and its effects on ecosystems, the atmosphere, and climate.

A data base of active fire products will be generated and archived at 1 km resolution and summarized on a grid of 10 km and .5o latitude/longitude at daily, 8-day, and monthly intervals. It includes the fire occurrence and location, the rate of emission of thermal energy from the fire and a rough estimate of the smoldering/flaming ratio. This information will be used in monitoring the spatial and temporal distribution of fires in different ecosystems, detecting changes in fire distribution and identifying new fire frontiers, wild fires, and changes in the frequency of the fires or their relative strength.

SDS	Units	Data Type -bit	Fill Value	Valid Range	NADIR Data Resolution
Algorithm QA	Bit	32-bit unsigned	0	0	1km
# Grid Cells Containing Fire Day 0	Bit	8-bit unsigned	0	0,9	1km
# Grid Cells Containing Fire Day 1	Bit	8-bit unsigned	0	0,9	1km
# Grid Cells Containing Fire Day 2	Bit	8-bit unsigned	0	0,9	1km
# Grid Cells Containing Fire Day 3	Bit	8-bit unsigned	0	0,9	1km
# Grid Cells Containing Fire Day 4	Bit	8-bit unsigned	0	0,9	1km
# Grid Cells Containing Fire Day 5	Bit	8-bit unsigned	0	0,9	1km
# Grid Cells Containing Fire Day 6	Bit	8-bit unsigned	0	0,9	1km
# Grid Cells Containing Fire Day 7	Bit	8-bit unsigned	0	0,9	1km

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 Thermal Anomalies/Fire Daily L3 Global 1km ISIN Grid

Geographic Extent: Type Lat/Long Range or Draw on Map

Temporal Extent: 2000-10-31 to present

Product Information

[Product Description](#)

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

[User Guide](#)

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

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

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

Contact Information

[LP DAAC User Services](#)

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URL: <http://LPDAAC.usgs.gov/modis/mod14a1.html>

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