

MODIS Web Services

Enabling Automated, Standard Access to MODIS Science Data

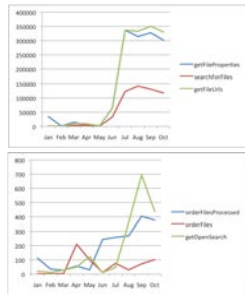


Robert Wolfe¹, Ed Masuoka¹, Larry Gilliam², Ali Rezaian², Neal Most², Cid Praderas³, Greg Ederer³, Karen Horrocks³, Gang Ye³, Neal Devine³, Asad Ullah³, Jeff Schmalz¹

1. NASA GSFC 2. INNOVIM 3. Sigma Space

MODIS Web Service

MWS released in early 2010 enables users to automate data searches and ordering, as well as post-processing activities, that include subsetting, reformatting and reprojection.



Interrogate Available Products
ListProductsByInstrument

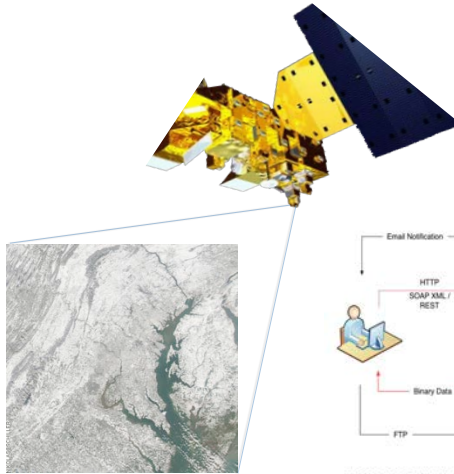
Order Product Data
orderFiles?
reformatType=geotiff
&reprojectName=GEO

Search for Product Data
searchForFiles?
product=MOD09

Earth Science Cross-Archive Distribution

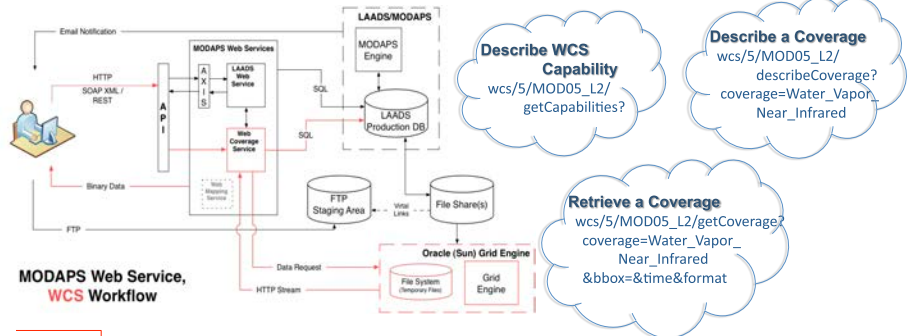
ESCAD allows users to search and order data, which has been sent by MODAPS to USGS's Land Processes Distributed Active Archive Center (LP DAAC), using the existing search and order capabilities and product holdings of LAADS. This service utilizes the newly implemented Cross-Access New Distribution Interface (CANDI), which provides a standard interface for users to specify their data selections from LP DAAC and swath data from MODAPS. This application leverages services from the ECHO, MODAPS and USGS GloVIS teams, enabling low cost development, robust integration and minimal maintenance.

- MWS, WCS Sponsored by NASA GSFC Terrestrial Information Systems Branch, Code 619 Contact Robert Wolfe, robert.e.wolfe@nasa.gov
- MWS host address: modwebsrv.modaps.eosdis.nasa.gov/axis2/services/MODAPSServices/
- MWS Registered: gcmd.nasa.gov/getserf.htm?MODAPS_WEB_SERVICE
- Data Quality Screening Service, Christopher Lynnes, PI, chris.lynnes@nasa.gov
- Cross-Archive Search, Access and Distribution Enabling MODIS and Beyond, Chris Doescher, PI LP-DAAC, Robert Wolfe, CO-I



MODIS Web Coverage Service

MODIS WCS currently in Beta tests, implements OGC's v1.0 Interface Standard. The WCS enables query and retrieval of MODIS geographical coverages across the Web using platform-independent interfaces. The user interacts with the WCS in a synchronous session, with results returned within a brief time period. A Coverage is a geographic data file, which may be modified and analyzed. MODIS WCS may be accessed at http://ladsweb.nascom.nasa.gov/data/web_services.html



Describe WCS Capability
wcs/5/MOD05_L2/
getCapabilities?

Describe a Coverage
wcs/5/MOD05_L2/
describeCoverage?
coverage=Water_Vapor_
Near_Infrared

Retrieve a Coverage
wcs/5/MOD05_L2/getCoverage?
coverage=Water_Vapor_
Near_Infrared
&bbox=&time&format

A Growing Library of Services

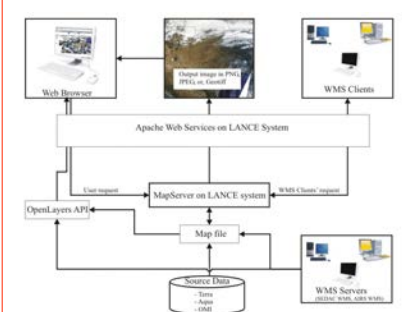
The Teams at NASA Goddard Space Flight Center which serve MODIS Atmospheric and Level 1B data and data products through the MODAPS (MODIS Adaptive Processing System), are developing and deploying a suite of services to simplify, standardize and automate locating, interrogating and retrieving metadata and science imagery.

The MODIS Web Service provides REST and SOAP based methods for interacting with the MODAPS data archive. The Web Coverage Service, scheduled to be released end of 2011, enables access and download of daily, global image files from over 500 data products. The Web Map Service provides presentation and overlay facility in order to produce a map. WCS and WMS comply with their respective OGC standards.

These services are enabling collaborations between data centers more easily and rapidly, bringing more robust and varied capabilities to the user community. Examples of these collaborations are: Data Quality Screening Service (DQSS)¹ and MODIS Cross-Access Distribution.²

LANCE Web Mapping Service

LANCE WMS implements OGC's v1.0 Interface Standard. The Land Atmosphere Near real-time Capability for EOS WMS enables the user to combine spatially referenced MODIS global data layers into a map and to access different geospatial databases without requiring the original source data. The WMS incorporates Geospatial Foundation's open-source Map Server to generate and serve the images and OpenLayers API for the Client to submit requests and present maps LANCE WMS may be accessed at <http://lance-modis.eosdis.nasa.gov/wms/>.



Retrieve a Map
wms/getMap?
coverage=Water_Vapor_
Near_Infrared
&bbox=&time&format

Describe WMS Capability
wms/getCapabilities?

