LP DAAC Status

MODIS Science Team Meeting

April 29 - 30, 2014

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Topics

- Access & Interoperability
  - Web Services
  - Training examples
- Core Support
  - Product updates
  - V6 preparation
  - QA support
  - MEaSURES at LP
  - Distribution statistics

ORNL MODIS Subsetter

- LP DAAC is hosting subsetting services developed at ORNL to create subsets
- User selects a location and timeframe to subset
  - Select area around the location to include in subset
  - Select timeframe to provide subsetted data
- Example of seamlessly integrated cross-DAAC services that provide data to users

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OPeNDAP Data Services (Prototype)

- OPeNDAP provides standardized web services that allow users to requests subsets of MODIS data
- Data is pulled directly from the data granule and formatted through OPeNDAP.
- Data can be aggregated over the entire timeframe of the data collection.
- Applications that utilize the OPeNDAP format can directly integrate with OPeNDAP services.

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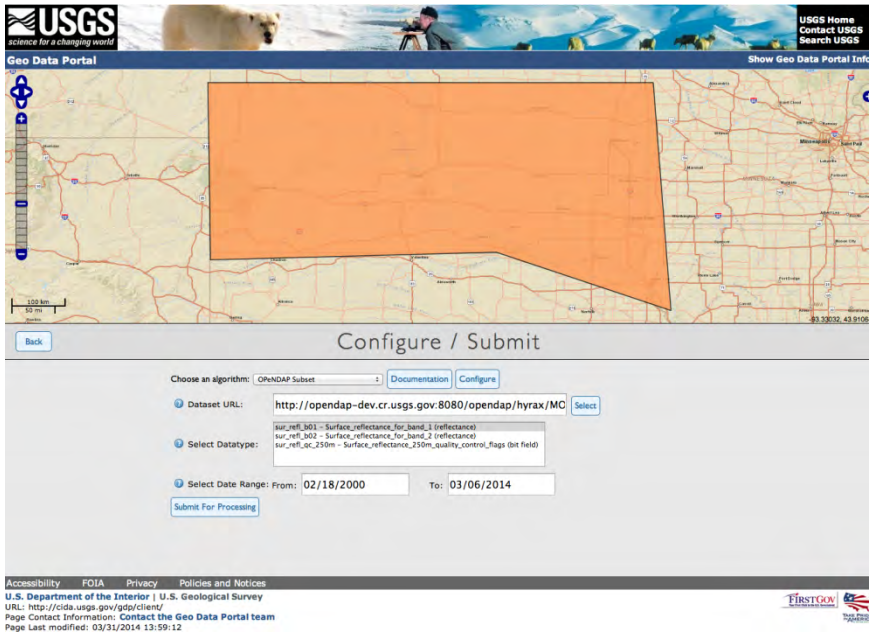
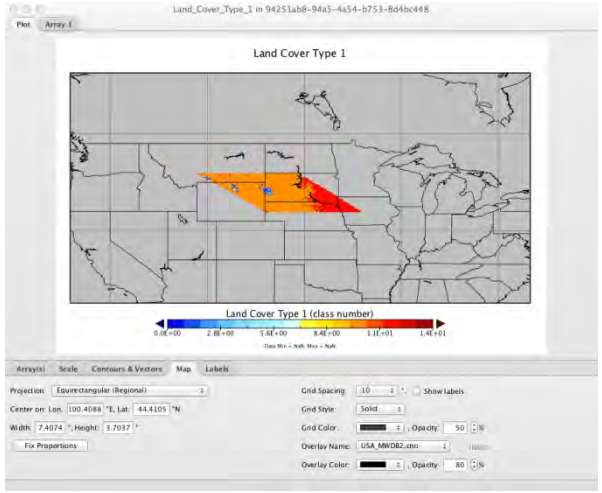
OPeNDAP Capable Interfaces





OPeNDAP Client Interfaces

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MRTWeb and MRTSwath Web Services

- The MODIS Reprojection Tool (MRT) was created by the LP DAAC to allow users to process MODIS Tile data.
- MRTWeb was developed to make MRT services available over internet web services.
- MRTWeb has a user interface that allows users to select MODIS tiles for reprojection, resampling, reformatting, and subsetting.
- The newly developed MRTSwath Web Services expand MRT web services to allow for the selection and processing of MODIS Swath data.

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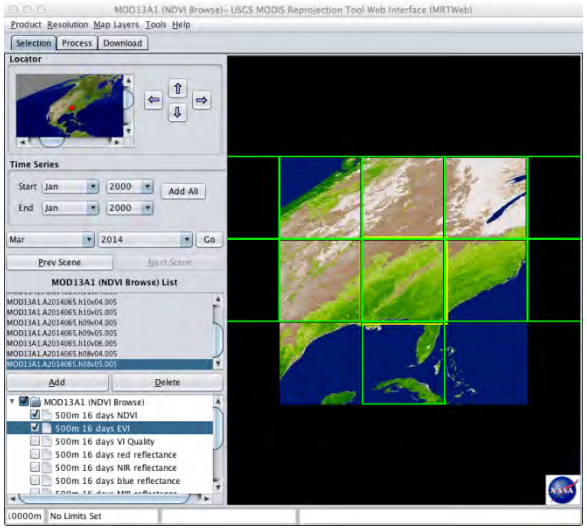
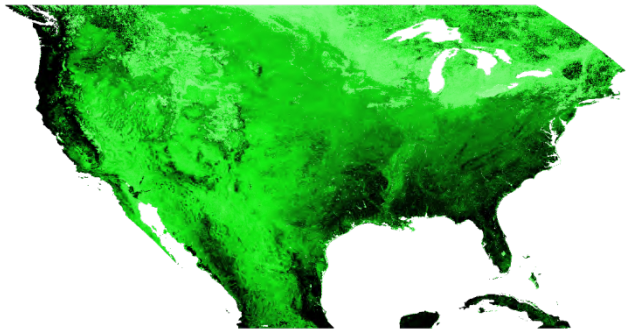
MRTWeb



MRTWeb Interface

Mosaic, Reproject, Resample



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Training for MODIS Products

- LP DAAC will plan to conduct the Collection-6 MODIS Workshop sometime following the release of the first few product suites (for instance, LSR, LST, & BRDF)
- Given the variety of material to cover, the Workshop may be divided into 2 parts (for instance, Products in the first, & Data access, Tools/Services in the second)
- A Webinar format will likely be used to conduct the Workshop

MODIS Land QA tutorial update

- **All 4 parts of the MODIS Land Products QA Tutorial are now available from the MODIS Data Products Table Web page** https://lpdaac.usgs.gov/products/modis_products_table
- In response to an action from the 2011 MODIS Science Team meeting, LP DAAC has developed a 2-part MODIS land QA tutorial:
  - Part-1: How to find, understand, and use the QA information for MODIS land products.
  - Part-2: How to interpret and use MODIS QA information in the Vegetation Indices product suite.
  - Part-3: How to interpret and use MODIS QA information in the Land Surface Reflectance product suite.
  - Part-4: How to interpret and use MODIS QA information in the BRDF and Albedo product suite.

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MODIS Products News

- New MODIS Product Releases
  - V051 Burned Area (MCD45A1)
- MODIS products to be released before v06
  - V051 Veg. Continuous Fields (MOD44B)
- MODIS products decommissioned
  - V5 Land Cover Type (MCD12Q1)
  - Land Cover Type Climate Modeling Grid (MCD12C1)

GCMD Updates

- LP DAAC work package provided updates to the Global Change Master Directory (GCMD)
- LP DAAC ASTER and MODIS products now have a GCMD page for each version (historical and current) of a product
- Decommissioned products are denoted as being no longer available through the LP DAAC, but the historical record of the product is available through GCMD

MODIS V6 Reprocessing Campaign

- The V6 MODIS land products comprise 166 ESDTs (Earth Science Data Types), all ESDTs have been received and installed in the TS2 and TS1 (test) modes
- OPS mode updates to ESDTs are in the process of being updated
- LP DAAC will perform MODIS V6 64-bit testing as test data becomes available from MODAPS

MOD09A1 QA Service

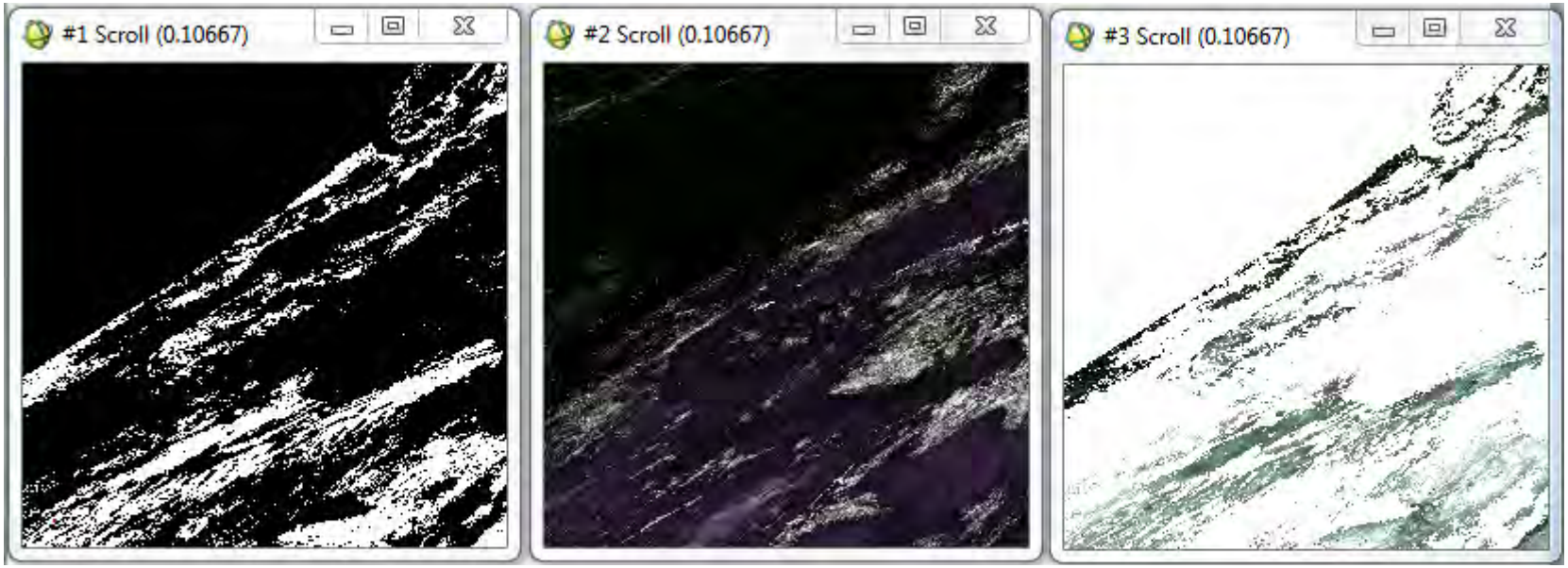
- LP DAAC started a work package to develop a service to distribute a QA output file to the user for MOD09A1
  - The output file will provide QA usability information for each pixel within the selected granule
  - The output file will be distributed using the EOSDIS Service Interface (ESI) through Reverb
- Users are able to choose between two levels of masks (Ideal and Good)

MOD09A1 QA Service

Image #1
Generated Mask

Image #2
Original HDF

Image #3
Mask Applied to HDF



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MEaSUREs at the LP DAAC

- 2006 MEaSUREs Awards (to be distributed by the LP DAAC in FY13)

PI	Institution	Title
Kamel Didan	U. Arizona	Vegetation Phenology and Enhanced Vegetation Index Products from Multiple Long Term Satellite Data Records
David Roy	SD State U.	Web-enabled consistent large area Landsat data streams and derived surface characterizations - a MODIS-Landsat data fusion for the terrestrial user community
John Townsend	U. Maryland	Earth Science Data Records of Global Forest Cover Change
Mike Kobrick	JPL	The Definitive Merged Global Digital Topographic Data Set

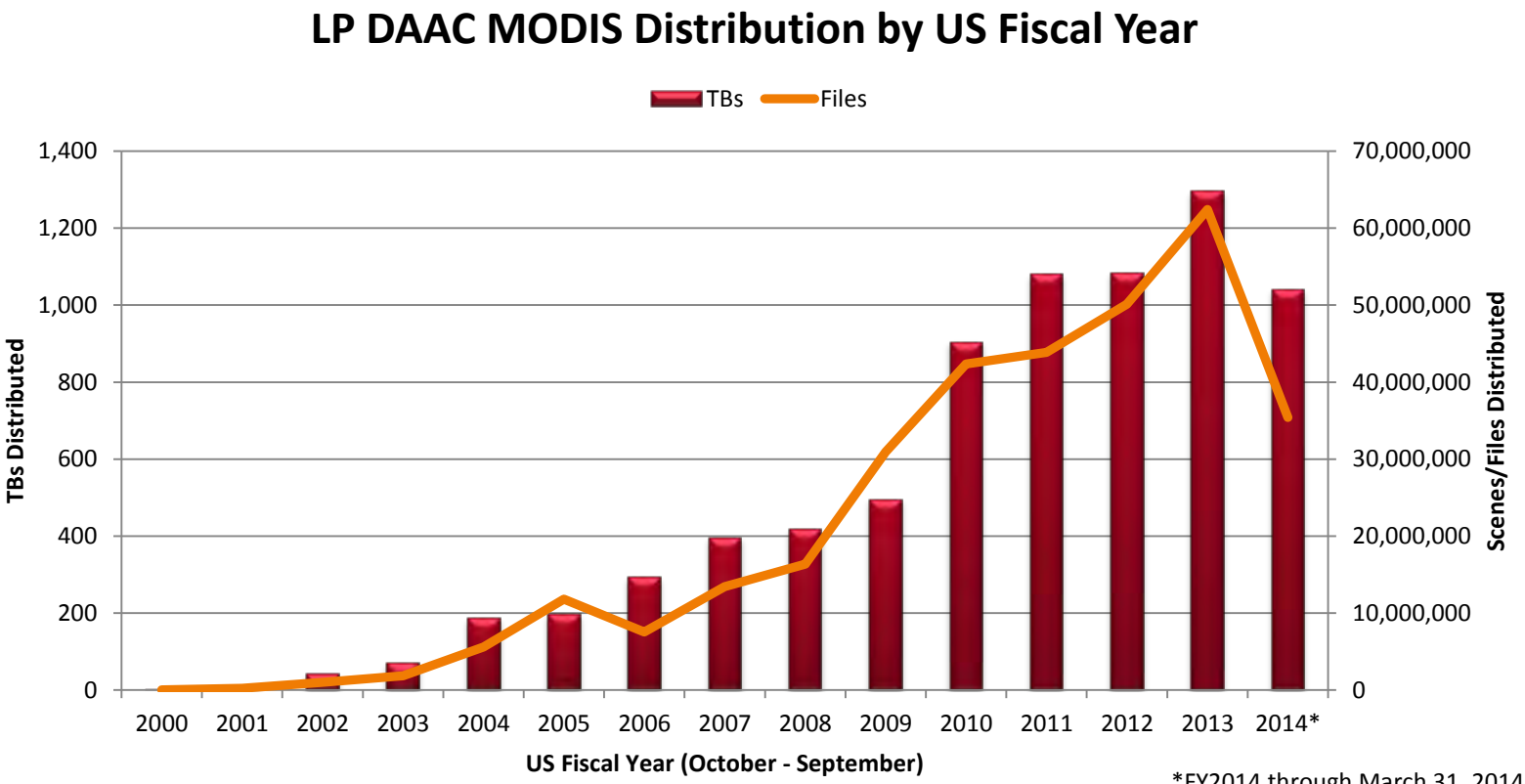
- 2012 MEaSURES Awards

PI	Institution	Title
Sean Buckley	JPL	NASADEM: Creating a New NASA Digital Elevation Model and Associated Products
Matthew Hansen	U. Maryland	Vegetation Continuous Fields ESDR for the AVHRR and MODIS Records: 1981 – Present
David Roy	SD State U.	Global Long-Term Multi-Sensor Web-Enabled Landsat Data Record
Prasad Thenkabail	USGS	Global Cropland Area Database (GCAD30) Through Landsat and MODIS Data Fusion for the Years 2010 and 1990 and Its Dynamics over Four Decades Using AVHRR and MODIS

- More information:

  http://earthdata.nasa.gov/our-community/community-data-system-programs/measures-projects

LP DAAC Distribution – historical



*FY2014 through March 31, 2014

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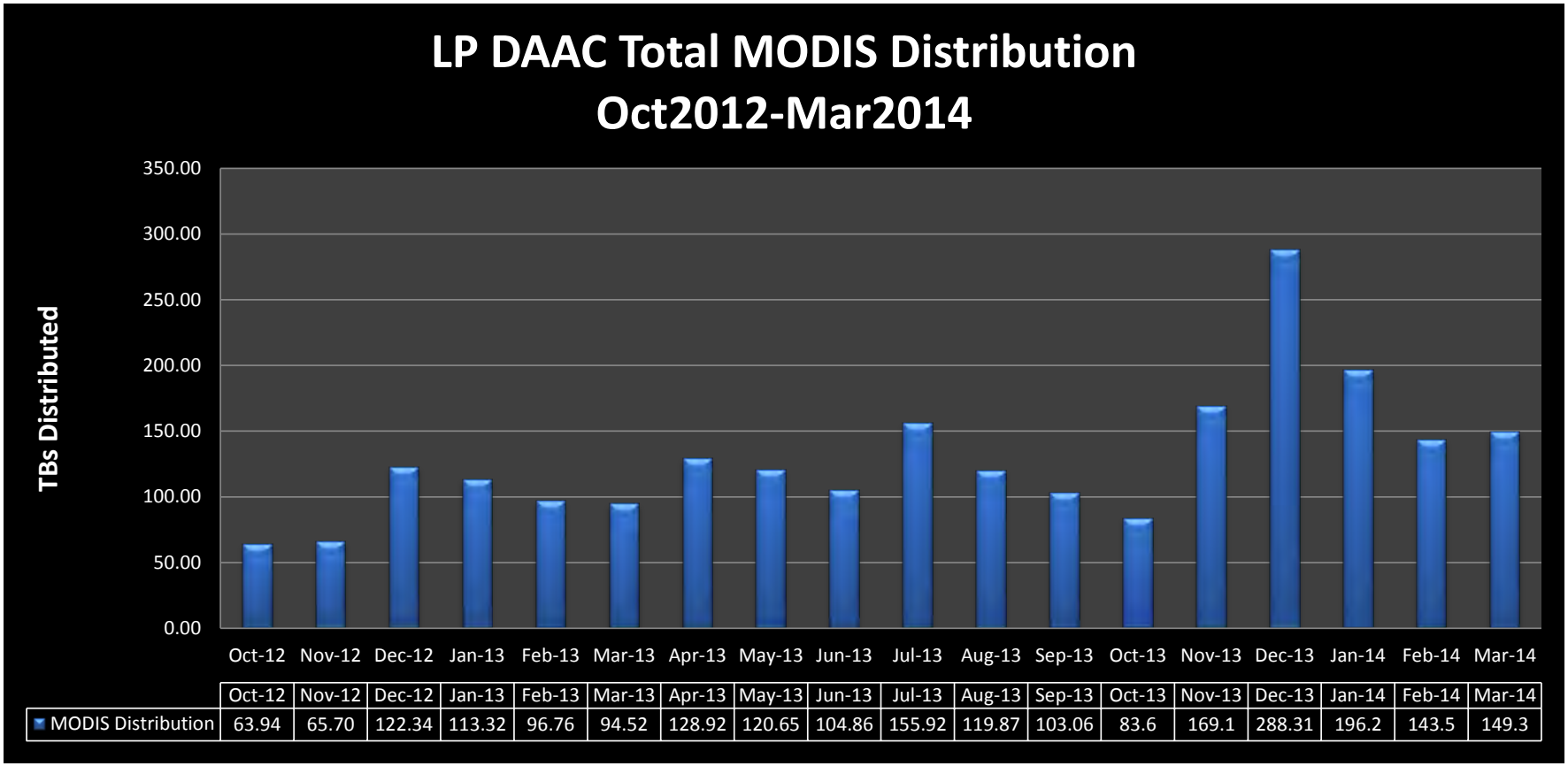
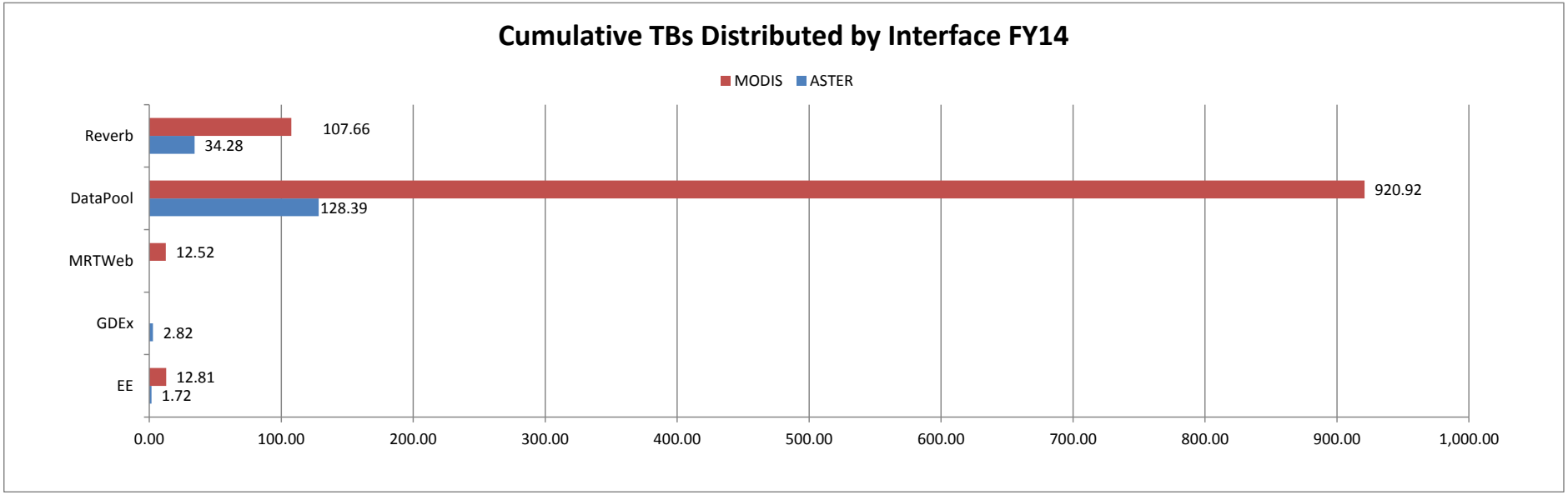
LP DAAC Distribution – last 18 months



	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14
MODIS Distribution	63.94	65.70	122.34	113.32	96.76	94.52	128.92	120.65	104.86	155.92	119.87	103.06	83.6	169.1	288.31	196.2	143.5	149.3

LP DAAC Distribution – FY2014



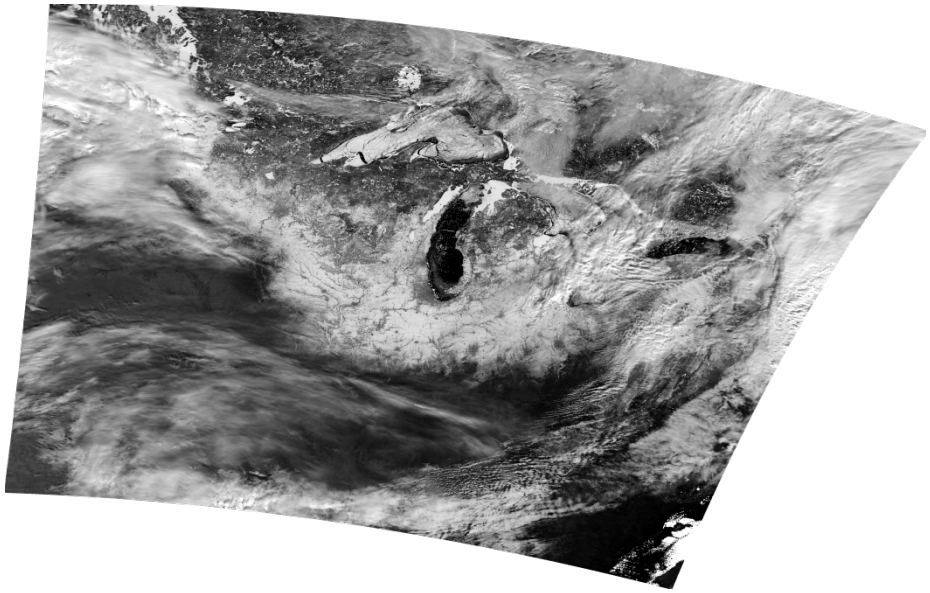

Questions?

MRTSwath Web Services

http://mrtwebsvc.cr.usgs.gov/MRTWebProcessor/resources/esiMrtswath?
FILE_URLS=ftp://ladsweb.nascom.nasa.gov/allData/5/MOD09/2014/050/
MOD09.A2014050.1650.005.2014056234655.hdf& FORMAT=GEOTIFF_FMT&EMAIL=user@mailaddress.com&
SUBSET_DATA_LAYERS='500m Surface Reflectance Band 1' &PROJECTION=GEOGRAPHIC

MRTSwath Web Service Call

Reproject, Resample, Subset



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