

MODIS Atmosphere Team Overview

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MODIS Science Team Mtg.
College Park, MD
18 May 2011



Outline

- Overview from ROSES 2009 Terra/Aqua NRA:
 - 19 funded investigations
 - PI's and Co-I's
- Quick MODIS Atmosphere Refresher
 - MODIS Algorithms and Product Dependencies
 - Current Products, Images, Available Resources
- Status of MODAPS Processing, Resources for Reprocessing
- Collection 6 (C6) Schedule
- C6 Science Testing: Planning and Resources
- Future Development Issues and Feedback
- Points of Contact: [HTTP://modis-atmos.gsfc.nasa.gov/team/](http://modis-atmos.gsfc.nasa.gov/team/)

Overview from ROSES 2009 Terra/Aqua NRA: 19 funded investigations

- Algorithm Refinement (proposal element 2.4)
 - 5 funded teams (aerosol dark target; aerosol deep blue; cloud-top, mask, profiles; cloud optical properties; ice cloud models)
 - one previous team not funded (cirrus reflectance, NIR water vapor)
- New Algorithm Capability/Products (2.3)
 - 1 funded team (cirrus retrievals w/1.38 μm band)
- NRT Capability (2.5)
 - 2 funded teams (Direct Broadcast/IMAPP; polar winds)
- Science Data Analysis and Data Fusion (2.1, 2.2)
 - 11 funded teams (5 focused on clouds, 3 on aerosols, 2 on aerosols & clouds, 1 other)

Overview from ROSES 2009 Terra/Aqua NRA: PI and Co-I's (1)

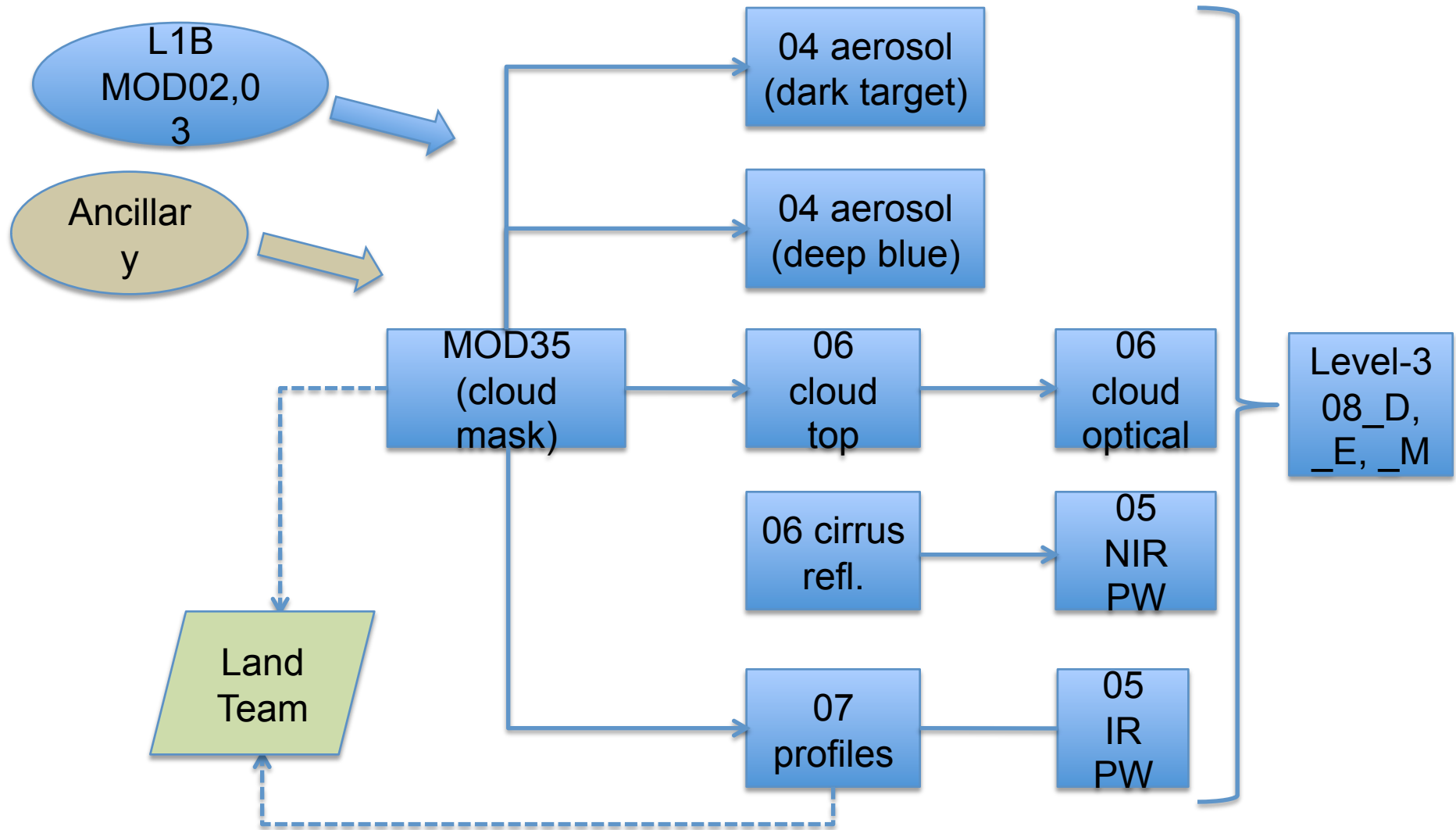
- Algorithm Refinement (proposal element 2.4)
 - Aerosol dark target: L. Remer, R. Levy, D. Tanre
 - Aerosol deep blue: C. Hsu, R. Hansell, J. Huang, S-C. Tsay
 - Cloud-top, mask, profiles: S. Ackerman, P. Menzel, R. Frey, E. Borbas, B. Baum
 - Cloud optical properties: S. Platnick, M. D. King, R. Pincus
 - Ice cloud models: B. Baum, P. Yang, A. Heymsfield
- New Algorithm Capability/Products (2.3)
 - Cirrus retrievals w/1.38 μm band: K. Meyer, S. Platnick
- NRT Capability (2.5)
 - Direct broadcast/IMAPP: A. Huang
 - Polar winds (MODIS & AIRS): D. Santek

Overview from ROSES 2009 Terra/Aqua NRA: PI and Co-I's (2)

- Science Data Analysis and Data Fusion (2.1, 2.2)
 - MODIS aerosols in vicinity of clouds: R. Cahalan, A. Marshak, T. Varnai, G. Wen
 - Multi-spectral approach to evaluating the response of deep organized convection to aerosols: E. Wilcox, D. Posselt, T. Yuan
 - CO and aerosol retrievals, local radiative forcing: David Edwards *
 - Absorbing aerosol impacts on atmospheric heating and accelerated snowpack melting in Himalayas/Tibetan Plateau: W. Lau, Kyu-Myong, Ritesh, Hsu, Yasunari *
 - The dispersal and evolution of volcanic plumes: Vincent Realmuto *
 - Trade wind cloud observations w/Terra, Aqua, and other satellites: L. Di Girolamo
 - Terra/Aqua assessment of midlat ocean GCM cloud cover: C. Naud, Y. Chen
 - Global constraints on radiative properties of ice clouds using MODIS & Polder: Bastiaan van Dierenhoven *
 - Global characteristics of marine Sc clouds and drizzle: Sandra Yuter
 - MODIS marine BL clouds and LES models: Zhibo Zhang, S. Platnick, A. Ackerman
 - CERES/MODIS to Improve energy balance snowmelt modeling: L. Hinkelman, R. Pinker, J. Lundquist

** See Poster*

MODIS Atmosphere Team Algorithm Dependencies



MODAPS Processing Status

- Standard “Forward” Processing
 - Level 2 products within 24-48 hours of overpass
 - Requires ancillary GDAS, SST, Ozone, Snow/Ice data
- Re-processing from Level 0
 - Runs at 50-100x (2-3 months processed per day)
 - Rules for ancillary data optimized for data quality
- Near Real Time Processing (<http://lance.nasa.gov>)
 - Level 2 products within 2-3 hours of overpass
 - Rules for ancillary data relaxed (yesterday’s data OK)
- Science Test Systems for Land / Atmosphere
 - Run Atmosphere codes at 30x with online product archive

Product User Resources

- <http://modis-atmos.gsfc.nasa.gov/>
 - Atmosphere product descriptions, ATBD's, plans for C6
 - L1B/L3 image archive for full Aqua/Terra missions
- <http://modis-atmos.gsfc.nasa.gov/team/>
 - Team site for algorithm development and science testing
- <http://ladsweb.nascom.nasa.gov/>
 - MODIS product distribution site with ordering, post-processing
- http://ladsweb.nascom.nasa.gov/data/web_services.html
 - MODAPS Web Services (API) for machine queries/orders
- <http://lance.nasa.gov/>
 - Near real-time products and images

Collections and PGE Versions

- C5 L1B, cloud mask, profile products
- C51 Atmosphere L2, L3 products
 - Aqua C51 reprocessing completed early 2010
 - Terra C51 reprocessing completed late 2010
- Goal: consistent calibration and algorithms
- Terra Deep Blue algorithm requires L1B polarization corrections (available only through 2007)
- Calibration challenges likely to impact C6 development

MODIS Atmosphere

HOME PRODUCTS IMAGES DATA ISSUES NEWS STAFF FORUM REFERENCE TOOLS HELP

AEROSOL H₂O VAPOR CLOUD PROFILE CLD MASK JOINT (Level 2 Products)

DAILY EIGHT DAY MONTHLY (Level 3 Products) | ALBEDO NDI ECOBSSEM (Level 3 Ancillary)

PRODUCTS

- OVERVIEW
- AVAILABILITY CALENDAR
- COLLECTION 906
- COLLECTION 951
- COLLECTION 905
- ACQUISITION
- KNOWN PROBLEMS
- HOV FILENAMES
- FLOW DIAGRAM

Last Updated: Saturday, 14-May-2011 12:10 PM EDT

■ = 051
 ■ = 051 (No Deep Blue)
 ■ = 005
 = Not Yet Processed
 = No Instrument Data
 5.0.1 = POE Version

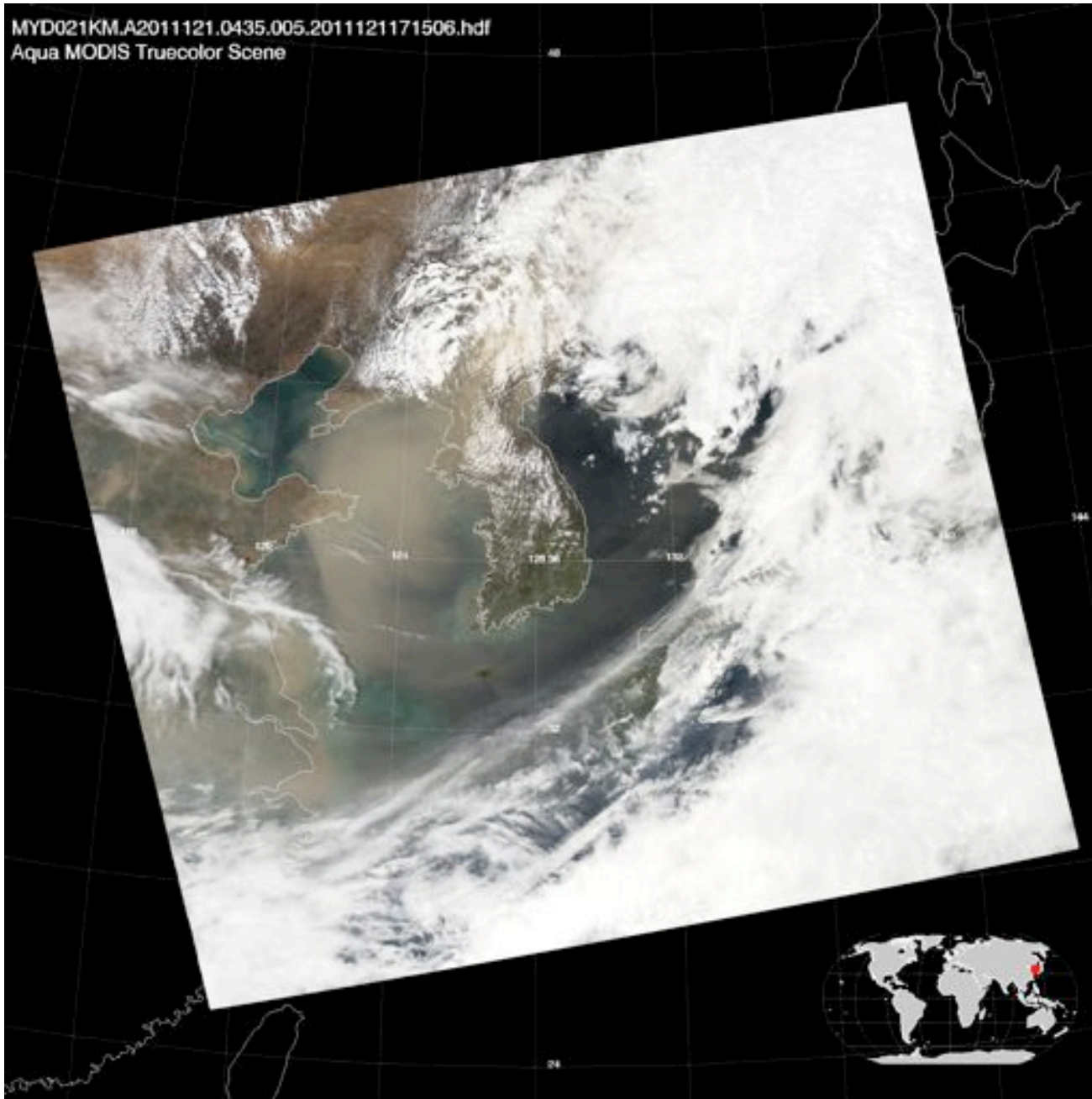
		Level 2 Products										Level 3 Products								
DATA DATE		AEROSOL 04_L2		H ₂ O VAPOR 05_L2		CLOUD 06_L2		PROFILE 07_L2		CLD MASK 35_L2		JOINT ATM2		DAILY 08_03		EIGHT DAY 08_83		MONTHLY 08_M3		
Y	M	Collection/Date	Time	Acqur	Time	Acqur	Time	Acqur	Time	Acqur	Time	Acqur	Time	Acqur	Time	Acqur	Time	Acqur	Time	Acqur
2011	M	121-151	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1		
	A	091-120	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	M	090-090	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	F	032-059	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	J	001-031	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
2010	D	335-365	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	N	305-334	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	O	274-304	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	S	244-273	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	A	213-243	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
2009	J	182-212	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	J	152-181	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	M	121-151	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	A	091-120	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	M	090-090	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
2008	F	032-059	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	J	001-031	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	D	335-365	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	N	305-334	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1
	O	274-304	51.0.11	51.0.11	51.0.11	51.0.11	51.0.8	51.0.8	53.1	53.1	53.1	53.1	51.0.1	51.0.1	51.0.2	51.0.2	51.0.1	51.0.1	51.0.1	51.0.1

MODIS Atmosphere Team Documents: Science Testing - Archive Set PGE Versions

Updated: 05/16/2011

[Contacts](#)
[C6 Schedule](#)
[Linux OS Tests](#)
[PGE03 C6 Tests](#)
[PGE04 C51 Tests](#)
[PGE04 C6 Tests](#)
[PGE06 C0 Tests](#)
[C6 L1B Tests](#)
[PGE Version Tracker](#)

ARCHIVE	MISSION	PGE01	PGE02	PGE03	PGE04	PGE06	PGE56	PGE57	PGE69	PGE70	PGE83
312	Aqua	v5.0.39	v5.0.35.2	v6.0.11	v51.0.11	v51.0.7	v51.0.2	v51.0.1	v51.0.2	v51.0.1	v51.0.1
312	Terra	v5.0.32	v5.0.40.25	v6.0.11	v51.0.11	v51.0.7	v51.0.2	v51.0.1	v51.0.2	v51.0.1	v51.0.1
315	Aqua	v5.0.32	v5.0.37.0	v5.2.6							
315	Terra	v5.0.40	v5.0.44.0	v5.3.1							
318	Aqua			v5.2.6	v51.0.11	v6.0.15	v6.0.1	v6.0.0	v6.0.1	v6.0.0	
318	Terra			v5.3.1	v51.0.11	v6.0.15	v6.0.1	v6.0.0	v6.0.1	v6.0.0	
319	Aqua	v5.0.39	v5.0.35.2	v5.2.6	v51.0.12	v51.0.8	v51.0.2		v51.0.2		v51.0.1
319	Terra	v5.0.39	v5.0.44.8	v5.3.1	v51.0.12	v51.0.8	v51.0.2		v51.0.2		v51.0.1
320	Aqua	v5.0.39	v5.0.35.2	v5.2.6	v51.0.11	v51.0.8	v51.0.2		v51.0.2		v51.0.1
320	Terra	v5.0.39	v5.0.44.8	v5.3.1	v51.0.11	v51.0.8	v51.0.2		v51.0.2		v51.0.1
332	Aqua			v5.2.6	v51.0.11	v6.0.16	v6.0.1	v6.0.0	v6.0.1	v6.0.0	
332	Terra			v5.3.1	v51.0.11	v6.0.16	v6.0.1	v6.0.0	v6.0.1	v6.0.0	
341	Aqua			v5.2.6	v51.0.11	v6.0.20	v6.0.1	v6.0.0	v6.0.1	v6.0.0	
341	Terra			v5.3.1	v51.0.11	v6.0.20	v6.0.1	v6.0.0	v6.0.1	v6.0.0	
350	Aqua			v5.2.6	v51.0.11	v6.0.21	v6.0.1	v6.0.0	v6.0.1	v6.0.0	
350	Terra			v5.3.1	v51.0.11	v6.0.21	v6.0.1	v6.0.0	v6.0.1	v6.0.0	
352	Aqua			v5.2.6	v51.0.11	v6.0.23	v6.0.1	v6.0.0	v6.0.1	v6.0.0	
352	Terra			v5.3.1	v51.0.11	v6.0.23	v6.0.1	v6.0.0	v6.0.1	v6.0.0	
353	Aqua			v5.2.6	v6.0.5	v6.0.23	v51.0.2	v51.0.1	v51.0.2	v51.0.1	
353	Terra			v5.3.1	v6.0.5	v6.0.23	v51.0.2	v51.0.1	v51.0.2	v51.0.1	
354	Aqua	v5.0.40	v6.1.7.3	v5.2.6	v6.0.5	v6.0.23	v51.0.2	v51.0.1	v51.0.2	v51.0.1	
354	Terra	v5.0.40	v6.1.6.3	v5.3.1	v6.0.5	v6.0.23	v51.0.2	v51.0.1	v51.0.2	v51.0.1	
355	Aqua	v6.0.7	v6.1.13.0								
355	Terra	v6.0.7	v6.1.12.0								
361	Aqua										
361	Terra	v5.0.40	v6.1.12.0	v5.3.1	v6.0.5	v6.0.23	v51.0.2	v51.0.1	v51.0.2	v51.0.1	

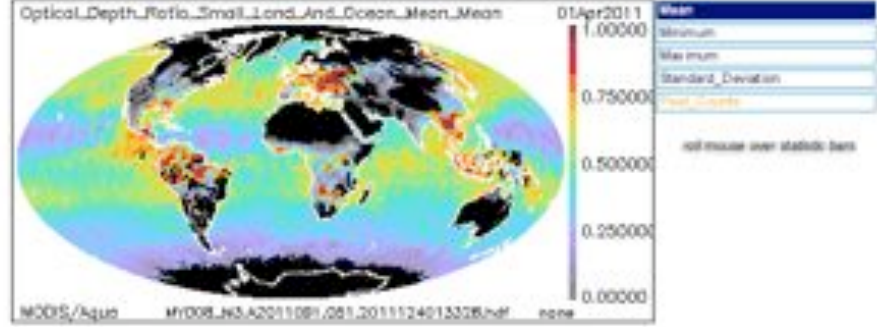
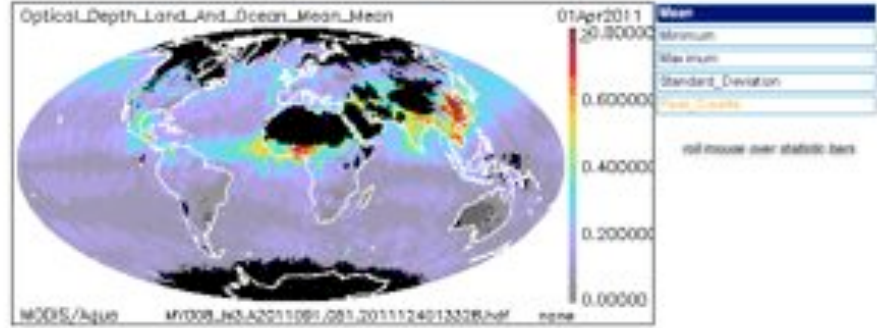
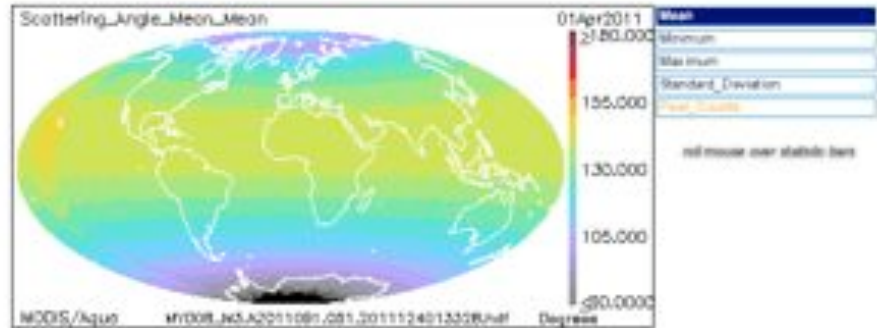


MODIS Atmosphere Team Overview, 18 May 2011

IMAGE 5

Aerosol (COMBINED LAND & OCEAN)

- TERRA IMAGES
- L1B
 - L1B GRANULES
 - L3 - Collection 051
 - L3 LOW-RES DAILY
 - L3 LOW-RES EIGHT-DAY
 - L3 LOW-RES MONTHLY
 - L3 - Collection 005
 - L3 LOW-RES DAILY
 - L3 LOW-RES EIGHT-DAY
 - L3 LOW-RES MONTHLY
- AQUA IMAGES
- L1B
 - L1B GRANULES
 - L3 - Collection 051
 - L3 LOW-RES DAILY
 - L3 LOW-RES EIGHT-DAY
 - L3 LOW-RES MONTHLY**
 - L3 - Collection 005
 - L3 LOW-RES DAILY
 - L3 LOW-RES EIGHT-DAY
 - L3 LOW-RES MONTHLY



New Global Browse Product

- Effort led by Xin-Min Hua using tools from Land team
- Mosaics for a dozen parameters (similar to MODATML2 subset)
- Nominal 5km and 20km resolutions
- 3 views, with custom color schemes
- Web viewer with ability to pan and zoom
- Core images produced by MODAPS production
- Web hosting @ 1 GB/day (mission requires > 7 TB)
- Will go into forward production shortly

New Global Mosaic Browse Images: 5km, 20km

MODIS Atmosphere

Globally Projected Browsers of MODIS Atmosphere Products

Select a Browse Collection:

- 1) Aqua Collection 1
- 2) Terra Collection 1

Enter the dates:

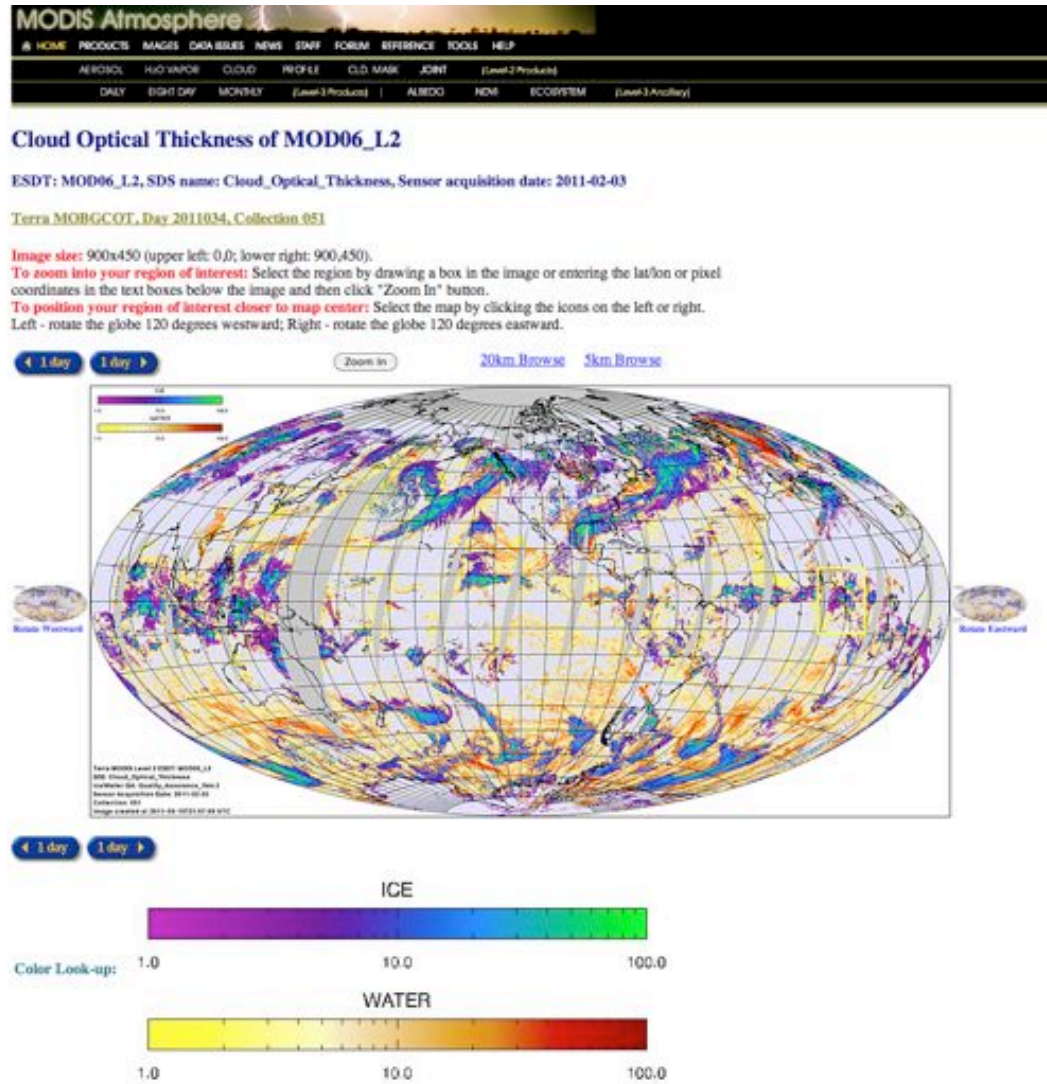
Start Date: 2010/01/01
 End Date: 2010/01/01
 (Format: YYYYMMDD)

Collection:

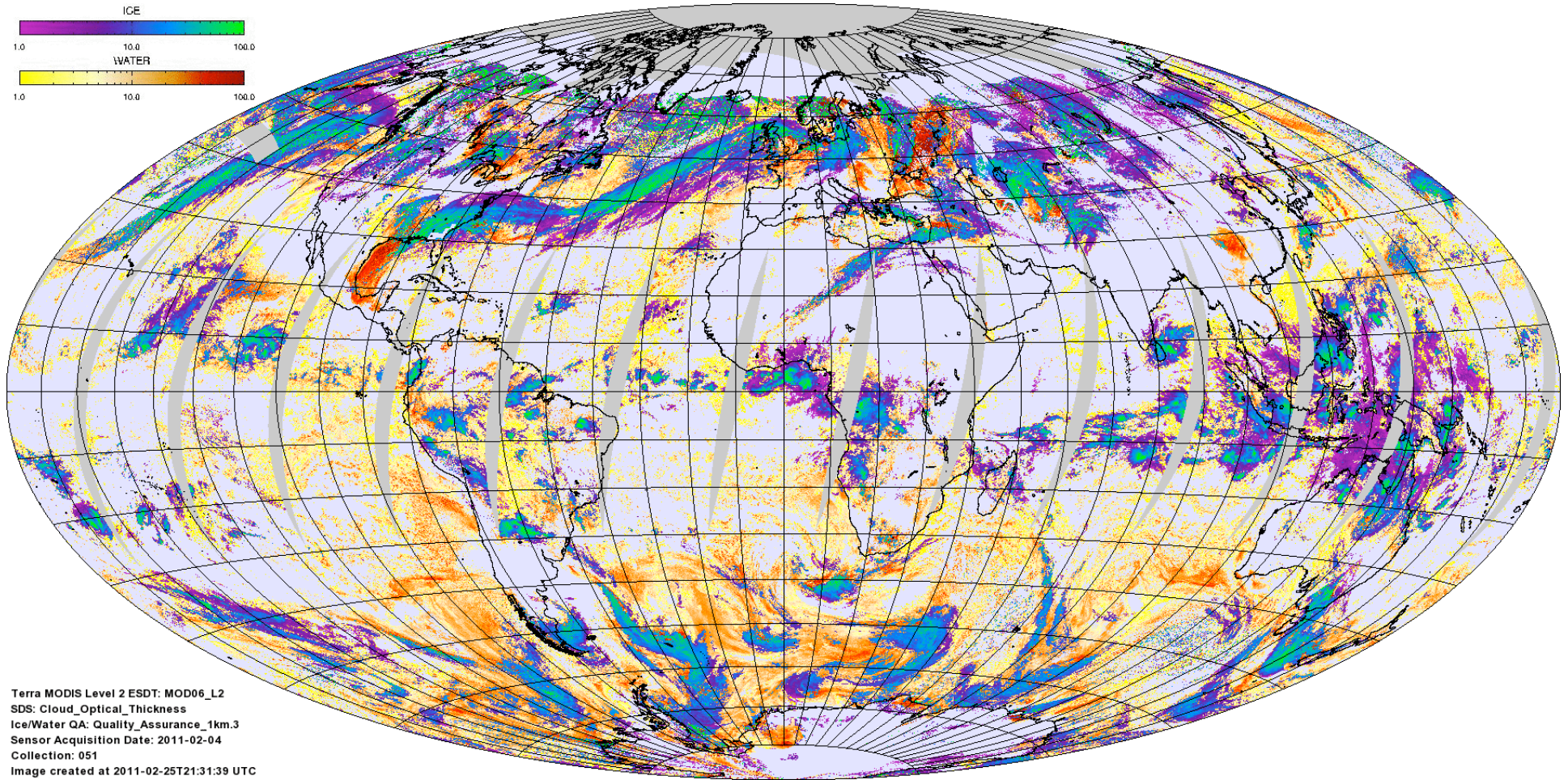
5km - Collection 001

Day of Year	5km Trop Color Range 001000	5km Water Color Range 001000	Cloud Fraction from Cloud Mask 001000_1.1	Cloud Top Temperature 001000_1.1	Cloud Top Pressure 001000_1.1	Cloud Optical Thickness 001000_1.1	Cloud Effective Radius 001000_1.1	Cloud Phase Indicator 001000_1.1	Cloud Absorption 001000_1.1	Cloud Albedo 001000_1.1	Surface Optical Depth Land and Ocean 001000_1.1	Surface Optical Depth Multi-Band Land and Ocean 001000_1.1	Deep Blue Aerosol Optical Depth 001000_1.1	Water Vapor Inferred 001000_1.1	Water Vapor Near Surface 001000_1.1
001/001													not available		
001/002													not available		
001/003													not available		
001/004													not available		
001/005													not available		
001/006													not available		
001/007													not available		
001/008													not available		
001/009													not available		
001/010													not available		
001/011	not available	not available	not available	not available	not available	not available	not available	not available	not available	not available	not available	not available	not available	not available	not available
001/012													not available		

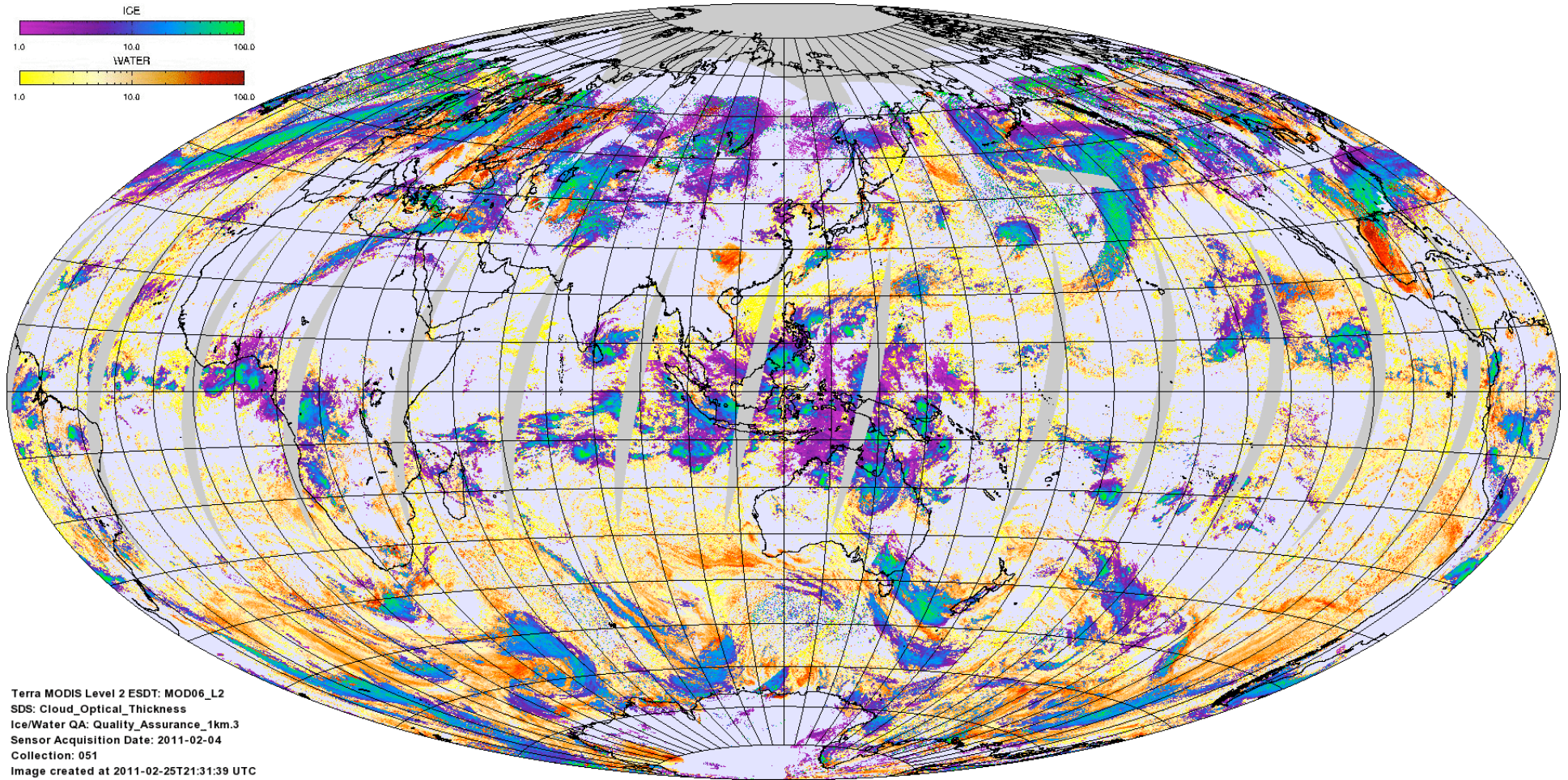
New Global Mosaic Browse Images: 5km, 20km



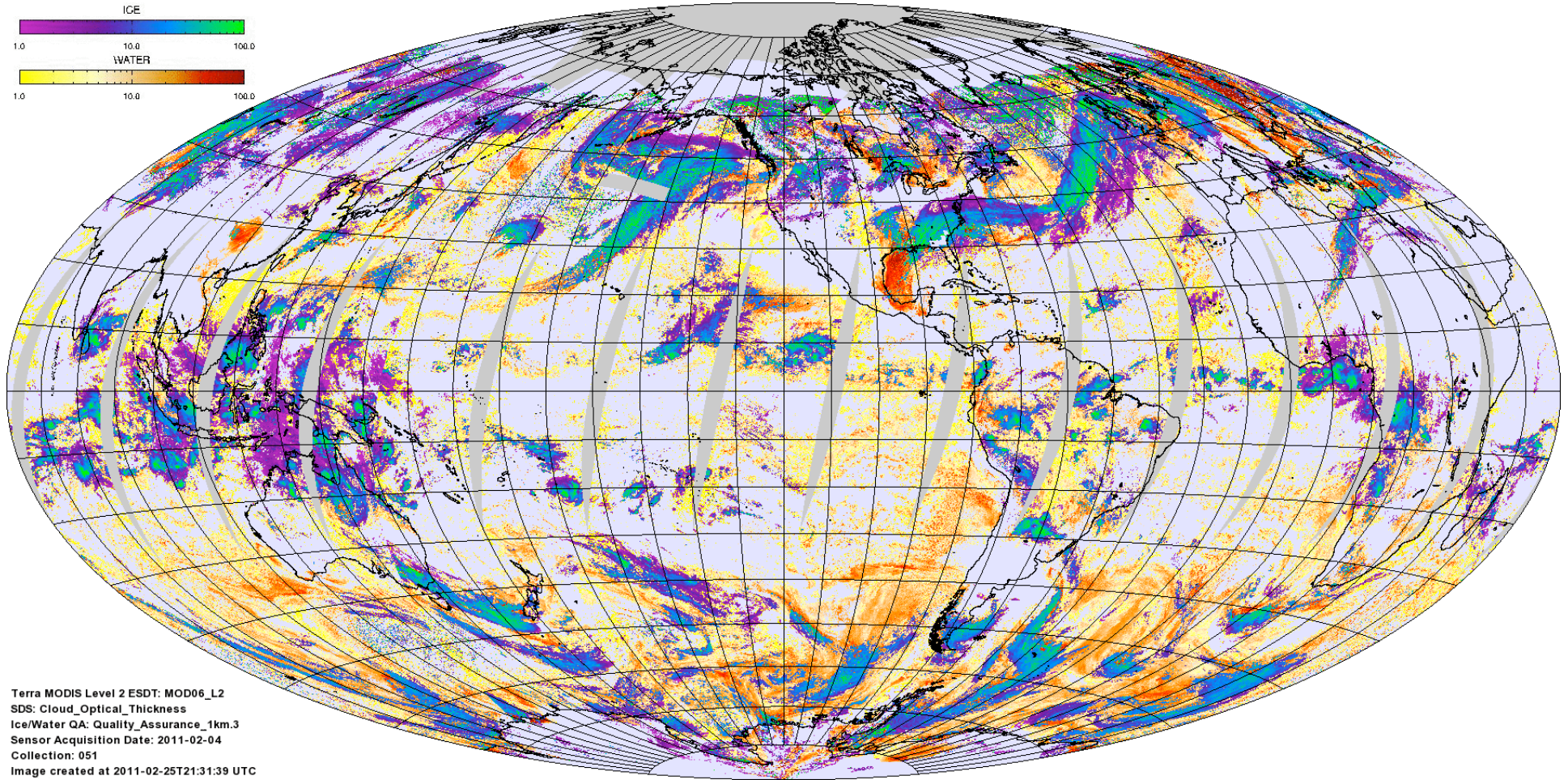
New Global Mosaic Browse Images: 5km, 20km



New Global Mosaic Browse Images: 5km, 20km



New Global Mosaic Browse Images: 5km, 20km



Schedule (tentative) for Atmosphere C6 Development, Testing and Reprocessing

June 2011	L1B calibration assessments
June-Sept 2011	L2 delivery and testing cycle continues
July-Sept 2011	C6 L1B & Cloud Mask reprocessing
Sept 2011	FileSpec for L2 products finalized
Oct-Nov 2011	L3 delivery and testing
Nov-Dec 2011	Final PGE science testing
Jan 2012	C6 reprocessing ready to start ?
Apr 2012	C6 reprocessing complete

MODIS Atmosphere Team Documents: C6 Schedule

Updated: 05/16/2011

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[PGE03 C6 Tests](#)
[PGE04 C6 Tests](#)
[PGE04 C6 Tests](#)
[PGE06 C6 Tests](#)
[C6 L1B Tests](#)
[PGE Version Tracker](#)

This table identifies code deliveries and science tests planned for C6 Term and Aqua reprocessing. For additional information about test objectives, PGE versions, test products and images, click on appropriate button above.

C6 Algorithm Update	Complete By ?	Status
L1B Calibration	Early June	Purpose: Run Collection 51 and Collection 6 algorithms with proposed C6 L1B to assess the impact of new calibration and geolocation changes on all downstream products. Status: Tests covering Jan/July 2003, 2008, 2010 are running. Additional days generated for Deep Blue algorithm analysis. (Data available via LAADS private archive.) Note: Significant calibration changes were included in April L1B code deliveries. RVS corrections are based on stable 'Earth View' desert scenes. The RVS corrections impact Bands 1,2,3,8.
Cloud Mask	Completed 2010	PGE03 v6.0.13 has been fully tested by Atmosphere and Land teams. Results in AS312 with baseline AS256.
Dark Target Aerosol	Late Summer	PGE04: 3km test successful. Continuing L1B sensitivity studies. Reference LAADS AS 308, 309, 310, 311, 353, 354, 361.
Deep Blue Aerosol	Uncertain	PGE04: Assessing L1B calibration, no delivery yet
Near-IR Water Vapor	Completed	PGE05: Delivered, testing complete
Clear Sky Radiance	Uncertain	PGE05: testing at Wisconsin
Cloud Top Properties	Uncertain	MOD_PR06CT: testing at Wisconsin
Cirrus Reflectance	Completed	PGE06: Delivered, testing complete
Cloud Optical Properties	Late summer	MOD_PR06OD: Have completed approximately 8 of 12 tests of C6 Optical Properties code
Joint ATML2 Product	Uncertain	Delivery approximately 60 days after L2 code frameworks finalized.
L3 Products	Uncertain	First test of templates that include C6 MOD06 SDS additions successful

KEY

Completed	Started	Planned
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Atmosphere Collection 6 Planned Updates: [Link to PDF Document](#)

Please submit updates and corrections to: Bill.Ridgway@NASA.gov

Responsible NASA Official: Steven.E.Platnick@NASA.gov

MODIS Atmosphere Team Documents: PGE06 OD Tests

Updated: 04/25/2011

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[OS L18 Tests](#)
[PGE Version Tracker](#)

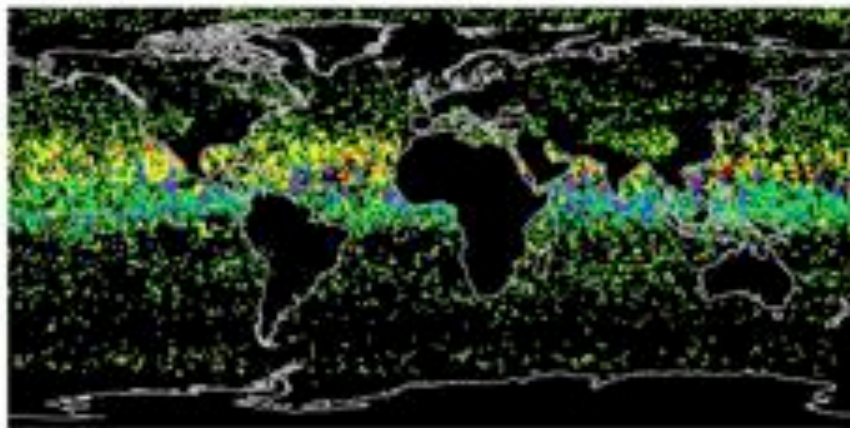
This table provides links to archived Science Test data (LAADS) and images (PGE TEST NAME). The primary baseline period for these tests is April 2005. Monthly test products are produced for single Terra and/or Aqua months. A large cross-section of two dimensional (360x180) monthly mean products are displayed along with difference maps with respect to a prior baseline test.

TEST	PGE TEST NAME	CODE	LAADS	DATE	DESCRIPTION
8	Full 3.7µm Tc iteration Reference Document Link to Images (planned)	PGE06 v6.0.24	TBD	TBD	Purpose: Test the full implementation of 3.7µm Tc iteration. Cloud top temperature (Tc) is now adjusted iteratively based on retrieved 3.7µm optical thickness and effective radius. Result: TBD
8D.1	Re-test of 8D with bug fix. Reference Document Link to Images	PGE06 v6.0.23	A5352	04/08/11	Purpose: Test bug fix for bug found in assignment of 3.7µm surface albedo over permanent snow/ice. Result: Test successful. Continuing towards science test 8.0
8D	New 3.7µm land surface albedo, new column ozone from GDAS, optimized forward library handling Reference Document Link to Images	PGE06 v6.0.22	A5351 (deleted)	04/04/11	Purpose: Continued changes to accommodate the UW-Madison IRW retrieval. We use the 3.7µm land surface albedo from a UW-Madison database instead of calculating it as $0.5 * A_{s, 2.1}$. We evaluate impact of using spatially and temporally interpolated column ozone from GDAS vs daily TOAST product without any interpolation. Result: Overall very good. Small bug found in assignment of 3.7µm surface albedo over permanent snow/ice. Retesting.
8C	Correcting McGarrath 1KM Cloud Top Product Reference Document Link to Images	PGE06 v6.0.21	A5350	04/04/11	Purpose: Testing fix made to U. Wisconsin IRW retrieval where the interpolation/extrapolation of GDAS profiles from 26 levels to 101 levels was found to return non-physical values from 1000 and 1100 mb for cases when surface pressure is greater than 1000 mb. Result: Test successful. Continuing towards science test 8.0.
8B.1	Bug fix for Science Test 8B. Reference Document Link to Images	PGE06 v6.0.20	A5341	03/18/11	Purpose: Re-Test of Science Test 8B to fix surface level handling bug in multilayer cloud algorithm. Result: Test successful. Will continue progress towards science test 8.0
8B	Spatially interpolated surface temperature and T2M instead of TSFC GDAS field use. Also further infrastructure changes. Reference Document Link to Images	PGE06 v6.0.17	A5336 (removed)	03/04/11	Purpose: Further structural changes to accommodate incoming IR Window retrieval of low cloud temperature. Surface temperature data is now coming from GDAS T2M instead of TSFC field as per Wisconsin comment that T2M field has better quality. Result: Overall good result for 3.7 micron changes that were the focus of this test. However handling of surface level in multilayer cloud algorithm appears to have a bug. False positives appeared at high elevations. There will be a re-test.
8A	New Ancillary Infrastructure Reference Document Link to Images	PGE06 v6.0.16	A5332	02-22-11	Purpose: This test is in preparation for integration of UW-Madison IRW retrieval as part of iterative 3.7 micron effective radius retrieval to account for cloud emissivity. Result: Test successful. No code problems.
7.0	GDAS temporal interpolation and increased vertical resolution Reference Document Link to Images	PGE06 v6.0.15	A5318	01-31-11	Purpose: Examine the effect of GDAS temporal interpolation to granule time instead of nearest time being selected. Collection 5 ancillary module improperly discarded available GDAS pressure levels, downsampling instead of downgrading. For this test we will use all available GDAS pressure levels to perform atmospheric correction and multilayer cloud detection. Result: Test successful. 3.7 micron retrieval clearly shows the effect of using a model that becomes stale as time progresses, particularly for Aqua.

Science Test Image Archive

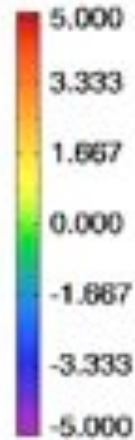
SELECT PARAMETER GROUP from Menu One GRAY CELL Aerosols Cloud_Top Cloud_Thickness Particle_Radius Uncertainty Cloud_Water_Path Water_Vapor Other **Cloud_Thickness**

Cloud_Optical_Thickness_1621_Ice_Mean_Mean



Test Data - Baseline Data

AS 352 - 350



units = "none"

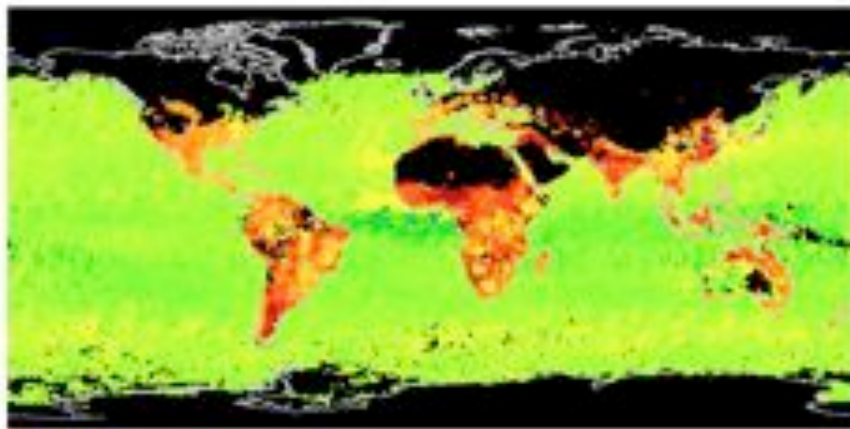
Cloud_Thickness

None	None	None	Cloud_Optical_Thickness_1621_Ice_Mean_Mean
None	None	None	Cloud_Optical_Thickness_1621_Ice_QA_Mean_Mean
None	None	None	Cloud_Optical_Thickness_1621_Liquid_Mean_Mean
None	None	None	Cloud_Optical_Thickness_1621_Liquid_QA_Mean_Mean
None	None	None	Cloud_Optical_Thickness_IL_Ice_Mean_Mean
None	None	None	Cloud_Optical_Thickness_IL_Ice_QA_Mean_Mean
None	None	None	Cloud_Optical_Thickness_IL_Liquid_Mean_Mean
None	None	None	Cloud_Optical_Thickness_IL_Liquid_QA_Mean_Mean
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None	None	None	Cloud_Optical_Thickness_Undetermined_Log_Mean_Mean
None	None	None	Cloud_Optical_Thickness_Undetermined_Mean_Mean
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None	None	None	Cloud_Optical_Thickness_Undetermined_QA_Mean_Mean

Science Test Image Archive

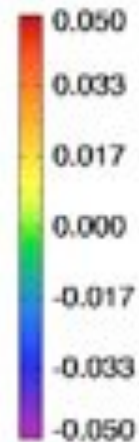
SELECT PARAMETER GROUP **SeaWiFS/OC2 GRAY CELLS** Aerosols Cloud_Top Cloud_Thickness Particle Radius Uncertainty Cloud_Water_Path Water_Vapor **READING**

Optical_Depth_Land_And_Ocean_Mean_Mean



Test Data - Baseline Data

AS 361 - 354



units = "none"

Aerosols

SeaWiFS	OC2	DIFF	Angstrom Exponent 1 Ocean Mean Mean
SeaWiFS	OC2	DIFF	Angstrom Exponent 1 Ocean QA Mean Mean
SeaWiFS	OC2	DIFF	Angstrom Exponent 2 Ocean Mean Mean
SeaWiFS	OC2	DIFF	Angstrom Exponent 2 Ocean QA Mean Mean
SeaWiFS	OC2	DIFF	Angstrom Exponent Land Mean Mean
SeaWiFS	OC2	DIFF	Angstrom Exponent Land QA Mean Mean
SeaWiFS	OC2	DIFF	Dark Target Deep Blue Combined Aerosol Optical Depth
SeaWiFS	OC2	DIFF	Dark Target Deep Blue Combined Aerosol Optical Depth Case
SeaWiFS	OC2	DIFF	Deep Blue Aerosol Optical Depth 550 Land Mean Mean
SeaWiFS	OC2	DIFF	Deep Blue Aerosol Optical Depth 550 Land QA Mean Mean
SeaWiFS	OC2	DIFF	Deep Blue Angstrom Exponent Land Mean Mean
SeaWiFS	OC2	DIFF	Deep Blue Angstrom Exponent Land QA Mean Mean
SeaWiFS	OC2	DIFF	Effective Radius Ocean Mean Mean
SeaWiFS	OC2	DIFF	Effective Radius Ocean QA Mean Mean
SeaWiFS	OC2	DIFF	Number Pixels Used Ocean Mean Mean
SeaWiFS	OC2	DIFF	Effective Optical Depth Average Ocean Mean Mean
SeaWiFS	OC2	DIFF	Optical Depth Land And Ocean Mean Mean
SeaWiFS	OC2	DIFF	Optical Depth Ratio Small Land And Ocean Mean Mean
SeaWiFS	OC2	DIFF	Optical Depth Ratio Small Land Mean Mean
SeaWiFS	OC2	DIFF	Optical Depth Ratio Small Land QA Mean Mean
SeaWiFS	OC2	DIFF	Optical Depth Ratio Small Ocean Mean Mean
SeaWiFS	OC2	DIFF	Optical Depth Ratio Small Ocean QA Mean Mean

Issues / Feedback

- L1B Calibration decisions will impact schedule
- Need to have “mature” L2 codes before L3 development can complete
- Paul Hubanks will discuss L3 changes
- More product ideas welcome, particularly for Joint L2 or L3 products
- Points of Contact: <http://modis-atmos.gsfc.nasa.gov/team/>