MODAPS Production, Archive, and Distribution

MODIS Science Team Meeting

November 2, 2006

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MODAPS and LAADS

- 7x24 production
- 10 FTEs (5 operation/science test, 5 sustaining engineering)
- Added 4 for distribution/user support
  - L0 and ancillary ingest – Derrick Jones
  - Distribution – Curt Hoffman
  - Tier 1 User Support – Frances Bergmann
  - Atmosphere Q/A – Gwen Fireman

Archive and Distribution (1 of 5)

- L1/Land and Atmospheres Archive and Distribution System (LAADS)
  - public site is available for archive and distribution of Level 1 and atmospheres products
  - Land products are exported to the LP and NSIDC DAACs for subsequent public distribution (following release by the Land Science Team members)
  - A private, password-protected site is used for archive and distribution of Land data products to MODIS Science Team
  - Data products are archived in compressed form; "chunking" has recently been added to L1B products

Archive and Distribution (2 of 5)

- LAADS Atmospheres Archive
  - All Collection 5 geolocation, cloud mask/profiles, browse, and L2+ atmospheres data products are permanently archived online
  - L1B products for CONUS and western Europe are permanently archived online
  - Some product subsets (e.g. Aeronet sites and 5x5 L1B sub-sampler) are also archived
  - Other L1B products are temporarily stored in a data pool with a capacity of approximately 30 production days (500 data-days)

Archive and Distribution (3 of 5)

- LAADS Public Atmospheres Archive (cont)
  - Data no longer in the data pool can be generated on-demand
  - Golden month data including all L3 data products are permanently archived
  - Collection 4 Level 2 data products are archived but will expire per "6-month" rule
  - Certain albedo products generated from the land reprocessing will be available once they are approved for release by the Science Team

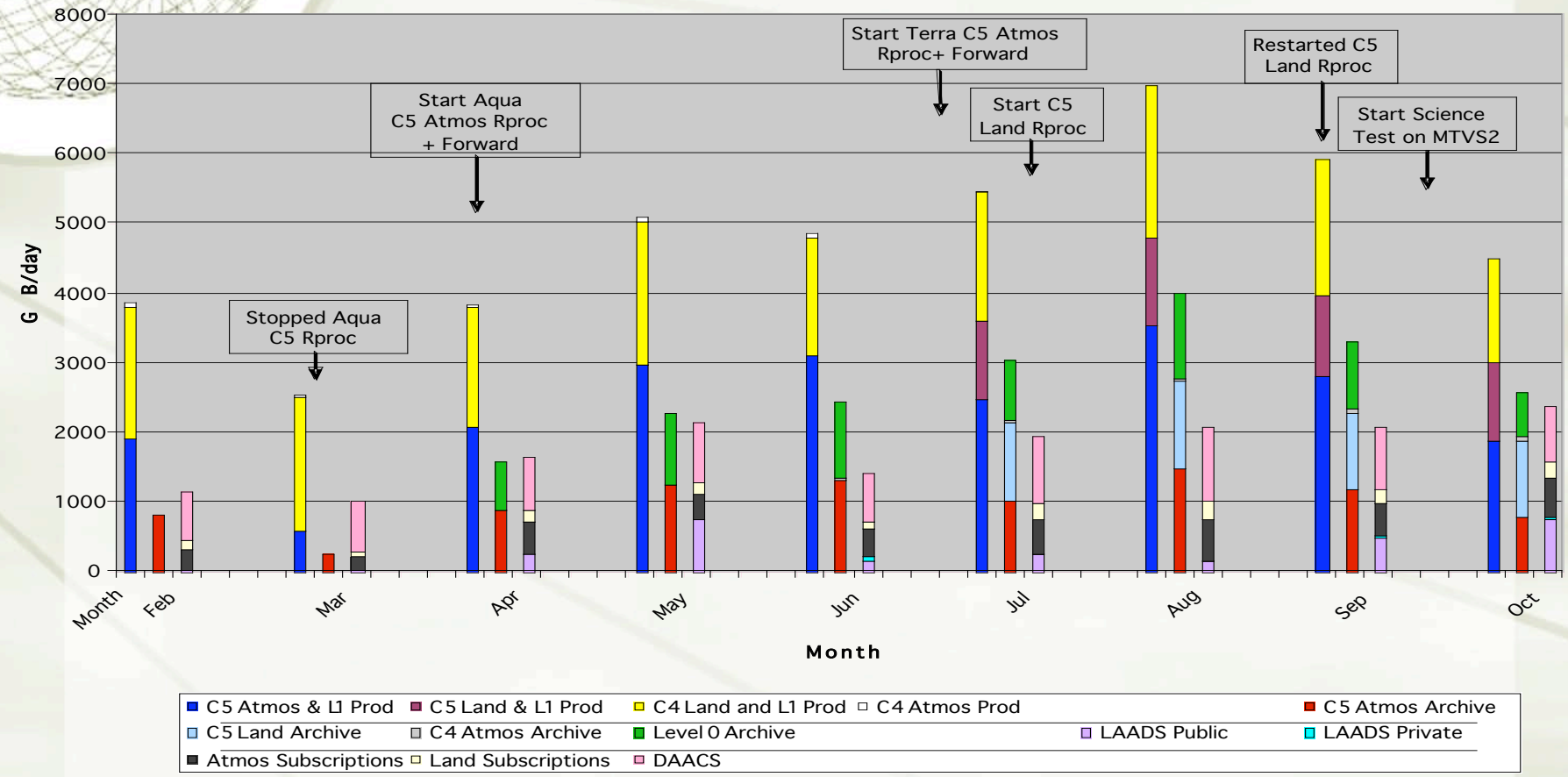
Archive and Distribution (4 of 5)

- LAADS Land Archive
  - All Collection 5 Land Surface Temperature, CMGs, Snow and Sea Ice, L2 Fire, and all 8+ day products are permanently archived on line
  - Products not in archive are produced on-demand
  - All online archives (Level 1, atmosphere and land products) are visible at the Science Team site

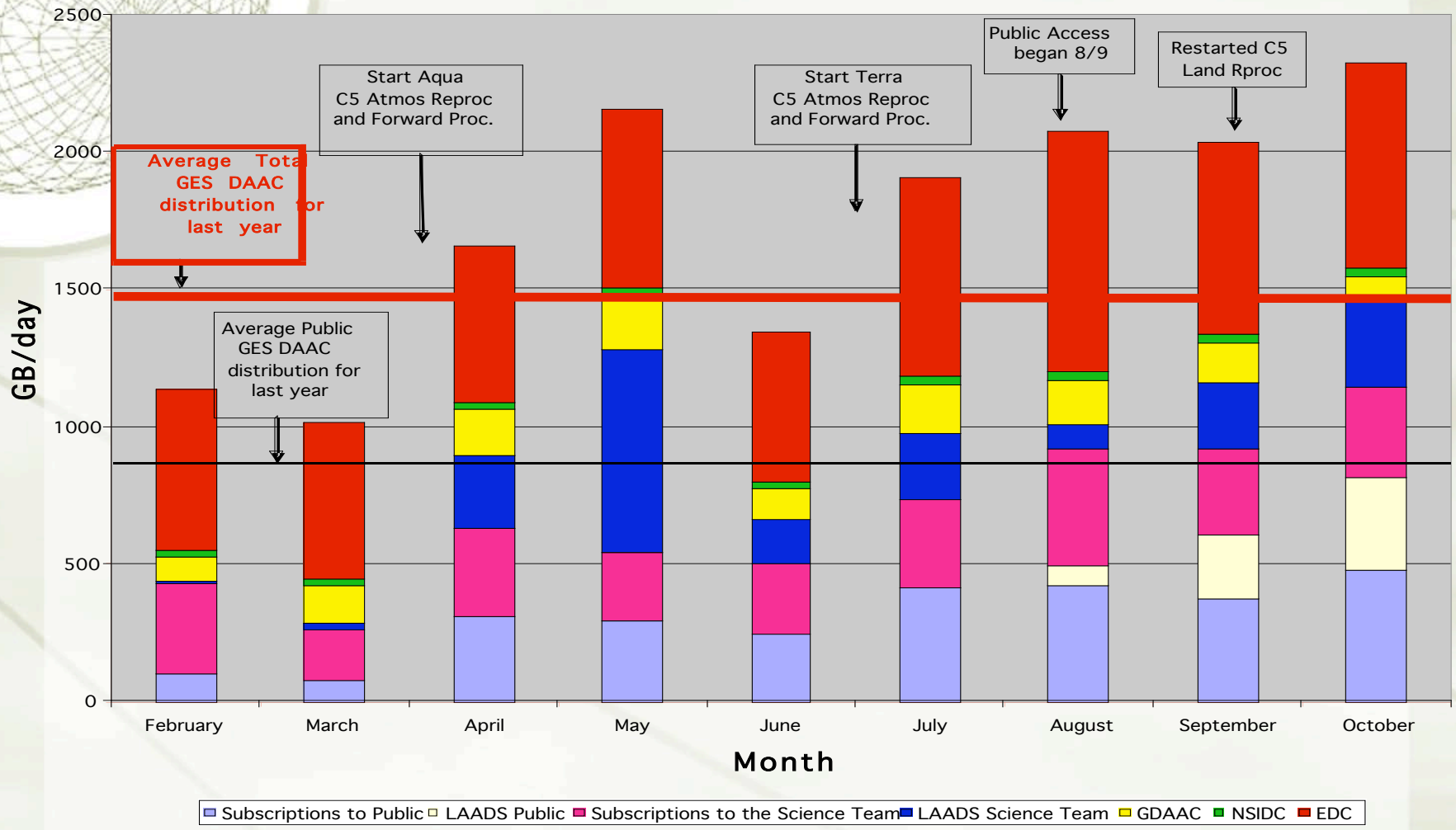
Archive and Distribution (5 of 5)

- Distribution responsibility for L1 and atmospheres data has transitioned to MODAPS/LAADS
- 1TB/day of Collection 4 and 5 data products are being exported to LP and NSIDC DAACs
- 700 GB/day of data products are sent to end users through subscriptions including special sub-sets
- 700 GB/day of data products (175 orders/day) are sent to end users through LAADS
- Searching/ordering is through LAADSWeb or ECHO
- ftp, McIDAS and OPeNDAP servers allow direct access to products in online archives and data pools

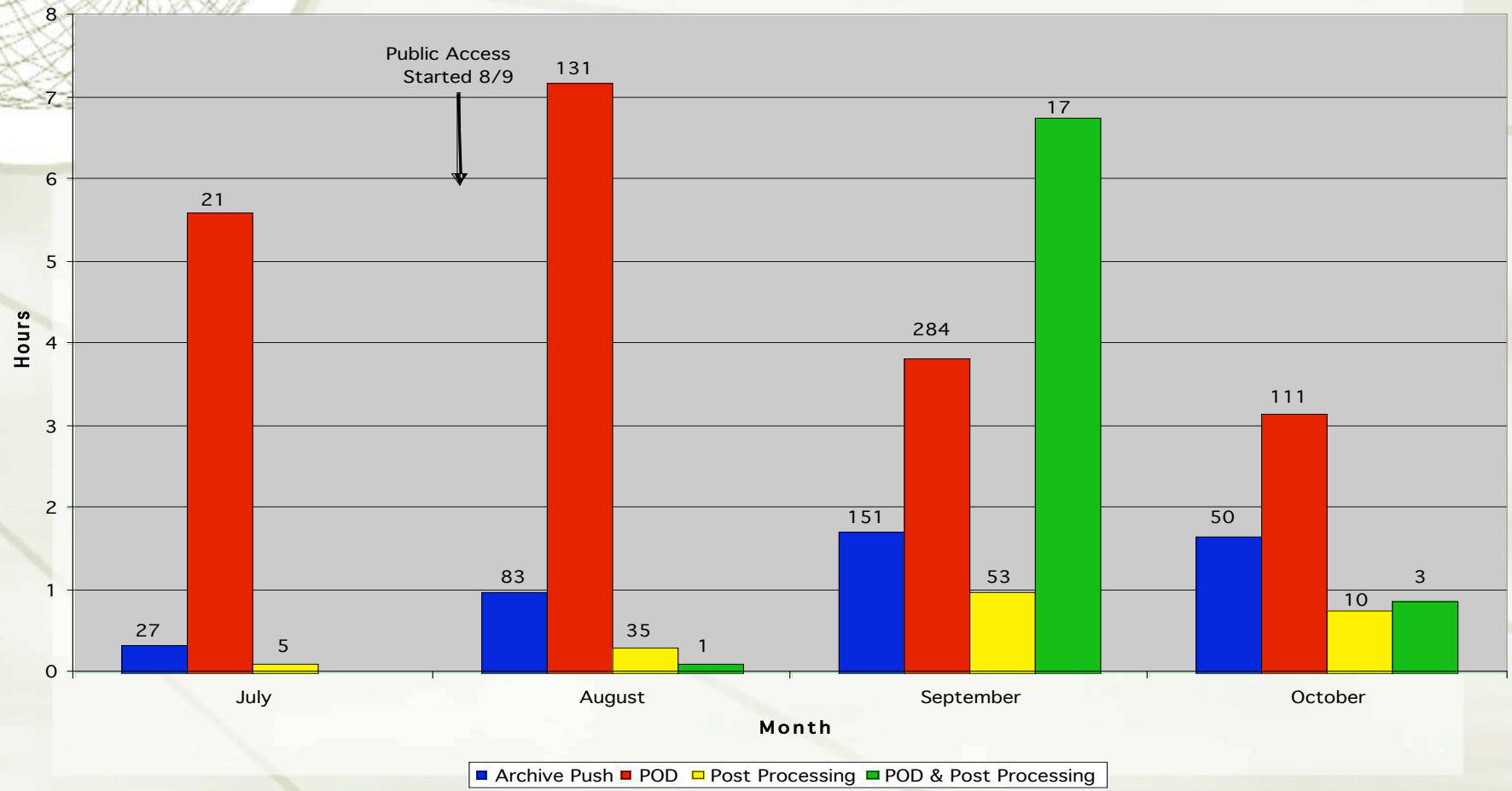
Production, Archive and Distribution



MODAPS/LAADS Data Distribution



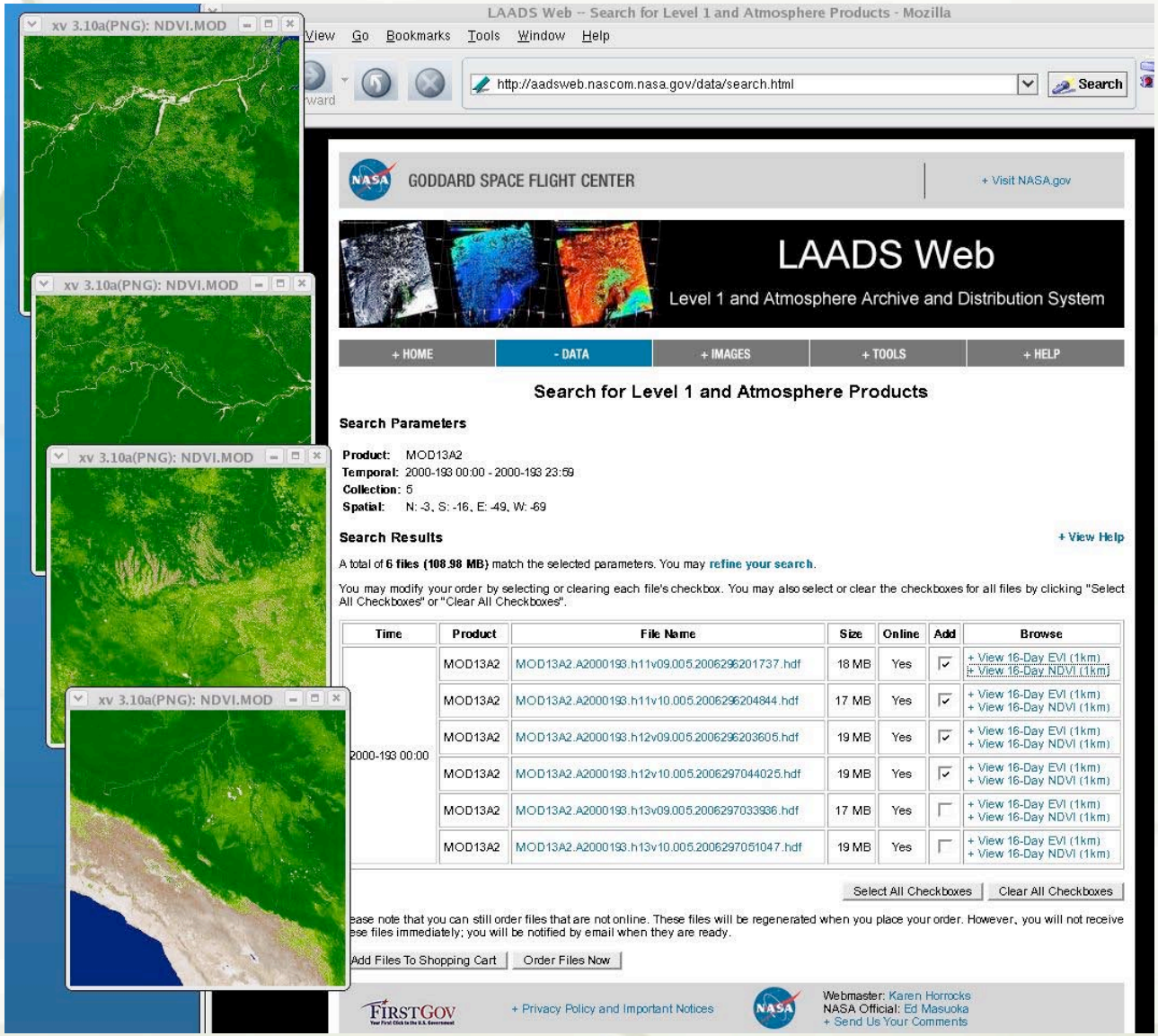
LAADS Order Response Time



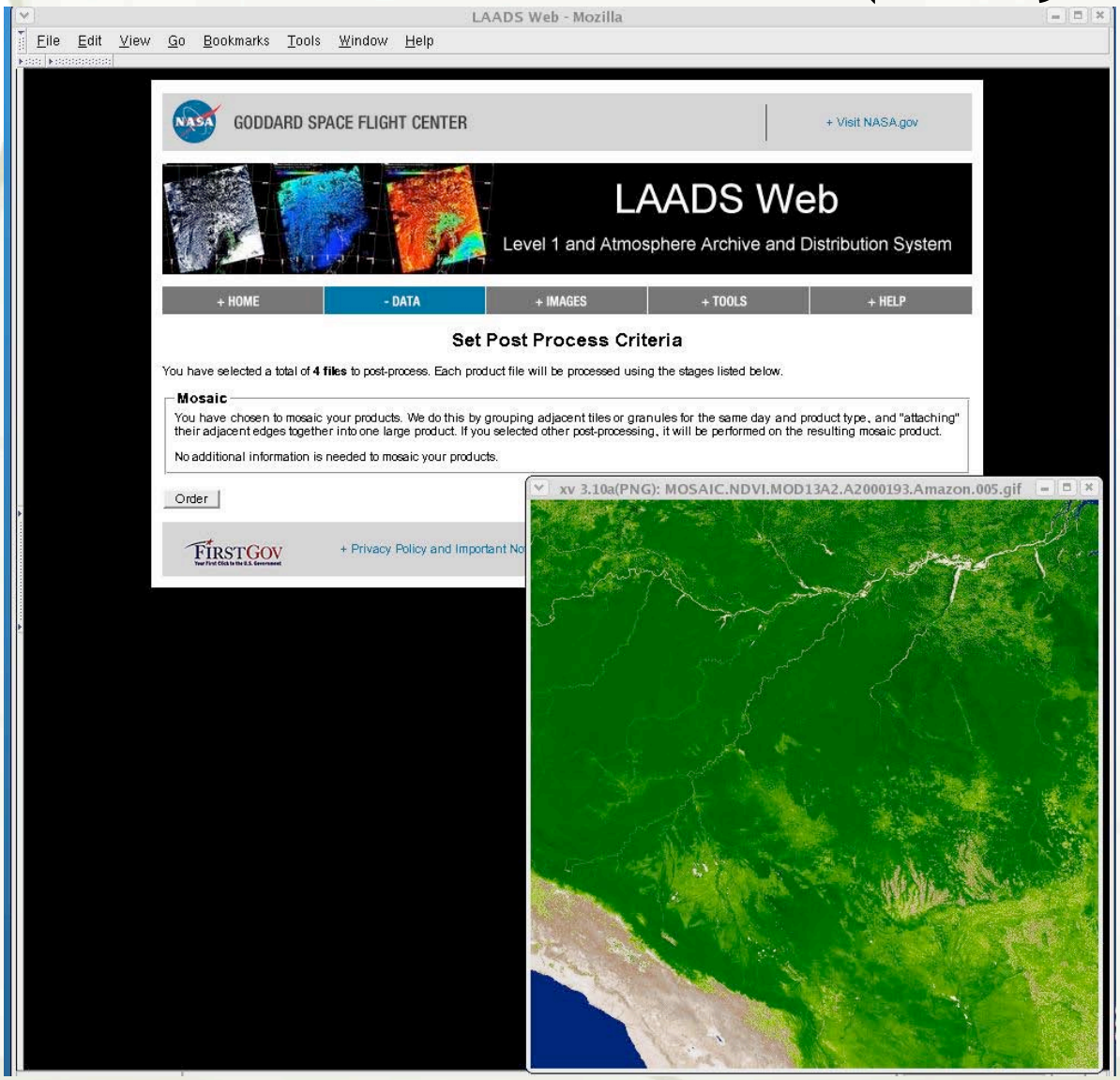
Upcoming LAADS Capabilities

- LAADS V4 in November will add:
  - Land metadata searches
  - Masking
  - Channel subsetting
  - L0 data distribution
  - ECHO interface (September)
  - Tile reprojection
  - Multiple web/ftp servers
- Additional capabilities in 2007 will include:
  - Granule reprojection, mosaicing, and GeoTIFF
  - Sub-sampling
  - Compositing (spatial and temporal)
  - OGC services and clients

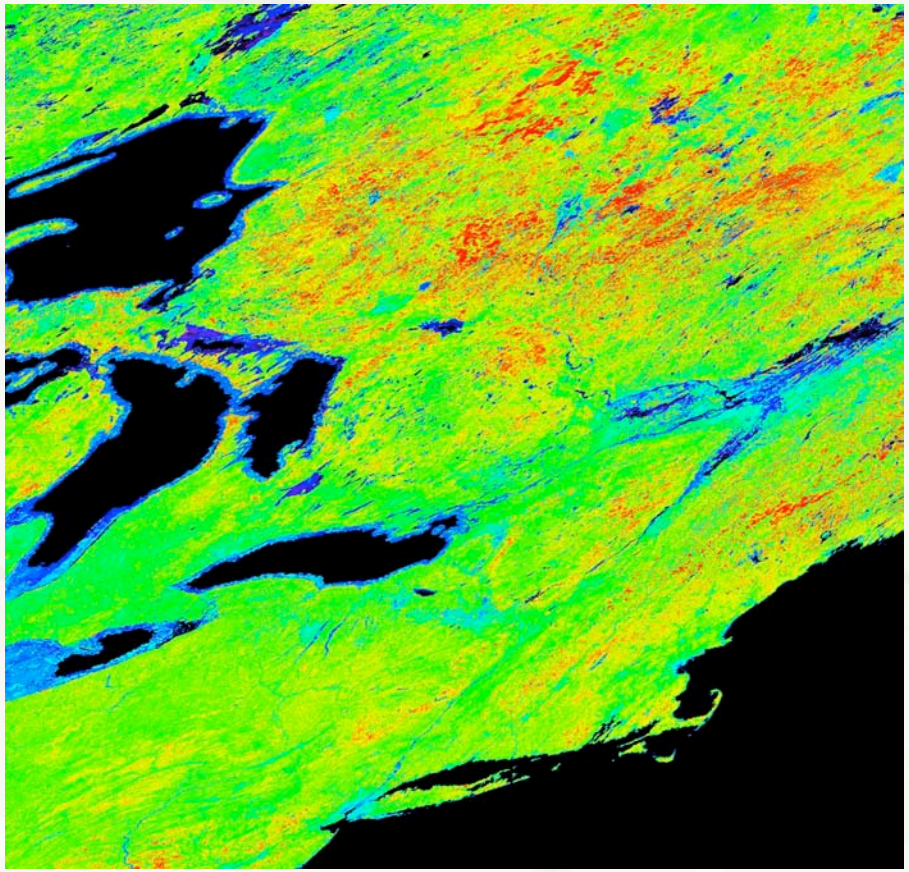
Mosaic Tiles (1 of 2)



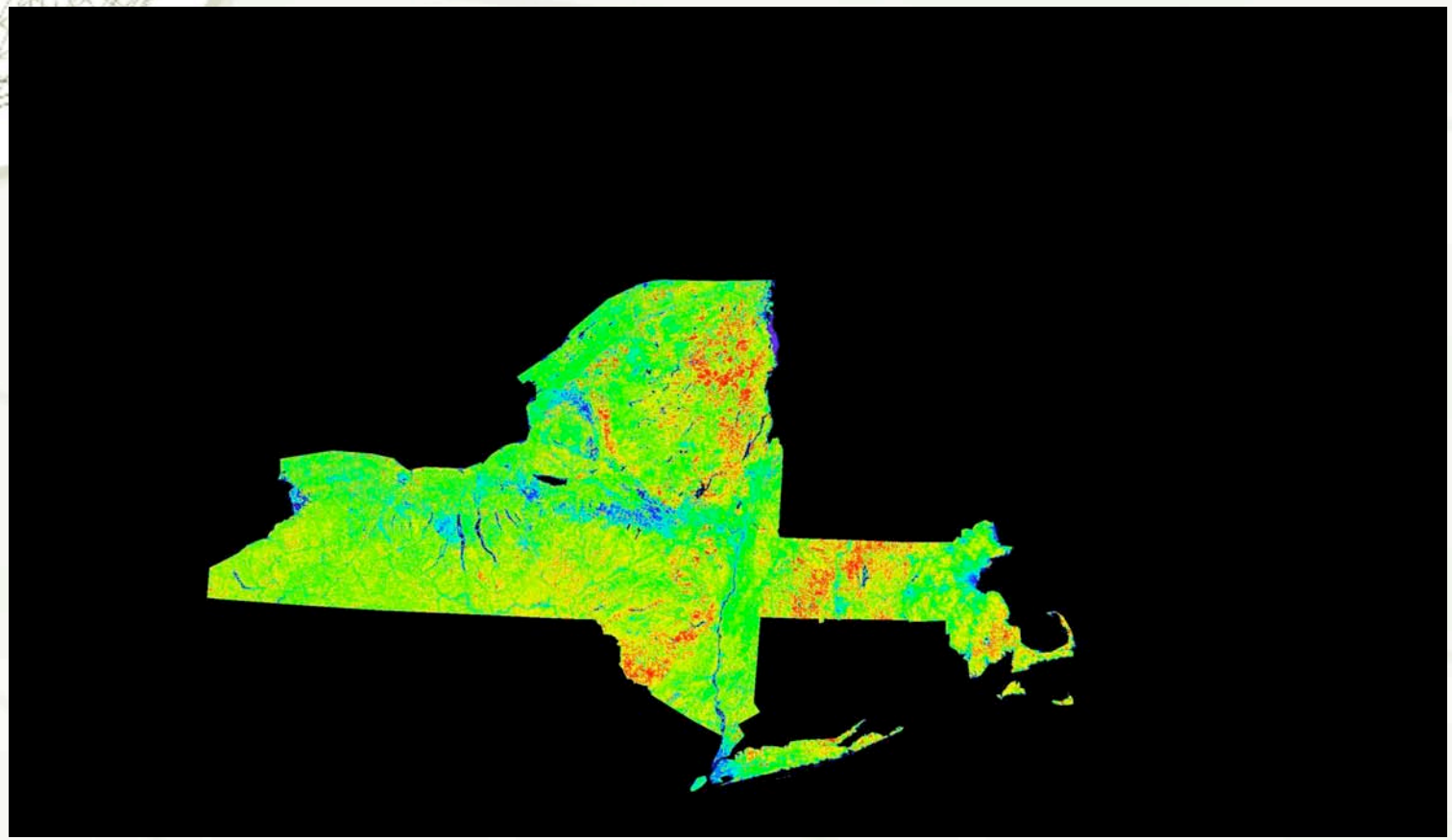
Mosaic Tiles (2 of 2)



EVI 500m March 6, 2000

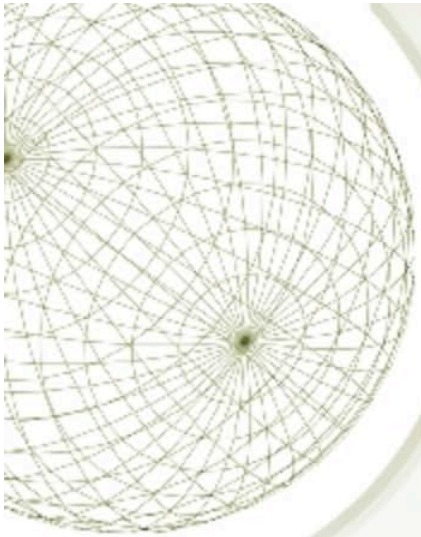


EVI 500m – Subset, Mask, Reprojection (Albers)



URLs

- The address of the public LAADS web site is http://ladsweb.nascom.nasa.gov
- The public ftp site is located at ladsftp.nascom.nasa.gov
- The MODAPS Services web site address is http://modaps.nascom.nasa.gov/services
- For access to the private LAADS site contact Mike Teague at opsman@saicmodis.com



Backup Material

MODAPS Production (1 of 2)

- Atmospheres
  - Forward processing - Collection 5 for Aqua and Terra
  - Collection 5 Reprocessing
    - Reprocessing rate of 14x to15x
    - Approximately 70% of the 10 data years have been reprocessed including all Aqua data
    - Collection 5 reprocessing will be done by January 2007
  - A separate reprocessing of Aqua aerosol data products for LUT changes and the "deep blue" algorithm will finish in April 2007

MODAPS Production (2 of 2)

- Land
  - Forward processing - Collection 4 for Aqua and Terra
    - Collection 5 will start when the Aqua codes have passed science testing (NLT January 1, 2007)
  - Collection 5 Reprocessing
    - The reprocessing rate is 7.2x to 8x
    - Terra reprocessing started in June and restarted in September because of multiple PGE changes
    - Reprocessing will be done Fall 2008
      - Earlier finish is possible with a 3rd reprocessing string, options are being studied