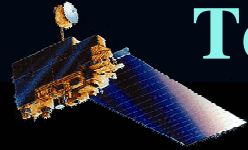




# NASA's Earth Observing System Terra Mission Update



**Jon Ranson, Terra Project Scientist**  
**Si-Chee Tsay, Terra Deputy Project Scientist**

**NASA's Goddard Space Flight Center**



# Terra Status



- All instruments acquiring science data
- MODIS A-side formatter timeouts increasing (~30M/day). Plans are being made for cross strapping the instrument.
- MOPITT still working on half of its channels.
- Terra performing a series of inclination adjust maneuvers to establish 10:30am  $\pm$  5 min. equator crossing. Went in to safehold following last inclination adjust maneuver in March. 6<sup>th</sup> and final maneuver postponed until September to accommodate implementation of the Lockheed recommendations regarding spacecraft procedures.



# Terra Status



- Pitch over maneuvers to view deep space and lunar surface being considered this autumn. Will coordinate planning with Aqua Project Scientist.
- SWIR crosstalk problem on ASTER is encouraging ASTER to “accept” lunar look maneuver.
- Recompetition – RFP concept discussed last team meeting has changed to NRA. Joint call for Maintenance and Science. Current NRA prepared by Jim Dodge is being reviewed by Code Y business office.



# Terra Data



- Nearly all Terra data products are now available through DAACs. - CERES, MOPITT and MISR still have unreleased products
  - Data product status: check <http://eosdatainfo.gsfc.nasa.gov>
  - Instrument teams should inform community about appropriate uses of Beta and Provisional data products.
  - EOS Science Working Group on Data - advocated for increased processing, working on distribution issues and involved in long term archive discussions.
  - Terra ASTER data charging plan being finalized by NASA HQ
- EOSDIS recompute being worked.



# Objectives of the EOS Terra Mission



- Provide the first, consistent global “snapshots” of important Earth surface and atmospheric characteristics - extend and improve upon past satellite records.
- CERES – ERBE like Instantaneous and monthly averages validated since March 2000.
- MOPITT – Global example of CO dynamics – no validated data sets.
- MODIS – SST validated Feb. 2002 – for Nov. 2000 to present
  - Atmospheric profiles validated Feb. 2002 for Nov. 2000 to present
  - Aerosol – Validated Oct. 2001 for Nov. 2000 to present
  - Many provisional products



# Objectives of the EOS Terra Mission



Improve the ability to detect the human impacts on climate by identifying indicators, or “fingerprints,” of human activity that can be used to distinguish them from natural variability.

MOPITT – global CO – demonstration of annual series.

MODIS – Landuse/Land cover (provisional) , veg. cover conversion ( beta)

- Provide measurements of the effects of clouds, aerosol and greenhouse gases on the Earth’s total energy balance.

MOPITT – CO distributions as Beta products, no Methane yet

MODIS – Atmospheric profiles, aerosol, TPW, are validated, provisional products – (cloud and atmospheric products)

CERES – ERBE like products

- Provide estimates of global terrestrial and marine productivity that will enable more accurate calculations of global carbon storage, exchange with the atmosphere, and year-to-year variability.

MODIS – many products in provisional status (e.g., NDVI, landcover, LAI, FPAR, ocean chlorophyll, ocean primary productivity)



# Objectives of the EOS Terra Mission



- Provide observations that will improve predictions of climate and of weather at seasonal and interannual time scales.

MODIS – Atmospheric profiles, aerosol, TPW, albedo are validated, provisional products – (albedo, cloud and atmospheric products)

CERES – ERBE like products

- Contribute to developing improved methods of disaster prediction, characterization, and risk reduction from wild fires, volcanoes, floods, and droughts.

ASTER – Various volcano Studies, glacier melting

MISR – Various flood and fire images

MODIS – Rapid Fire Response System

Flood studies

Snow cover mapping



<http://earthobservatory.nasa.gov/>



earth observatory



Nominated for 2002 Webby Award

and Won

the People's Voice Award for Science

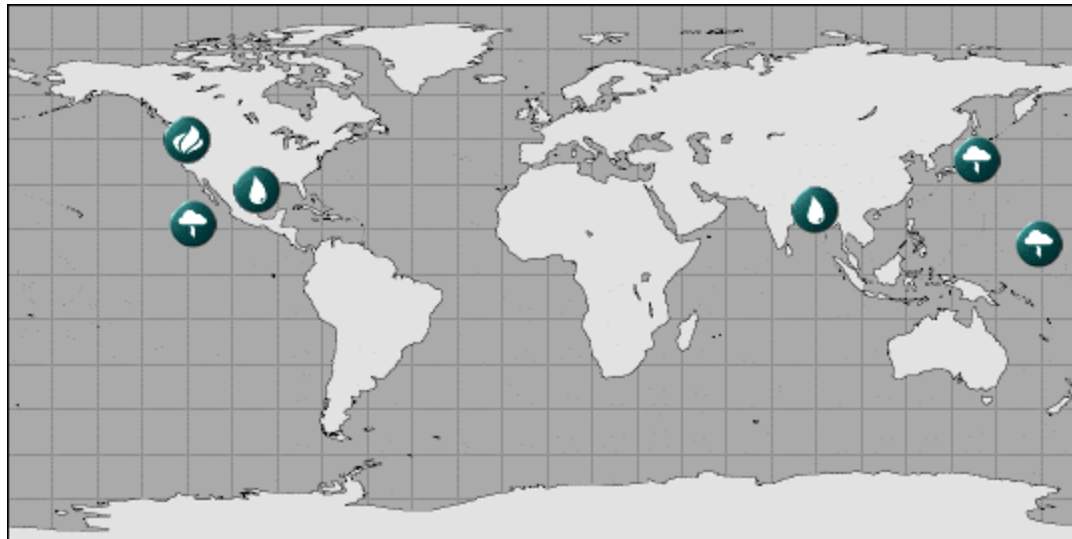




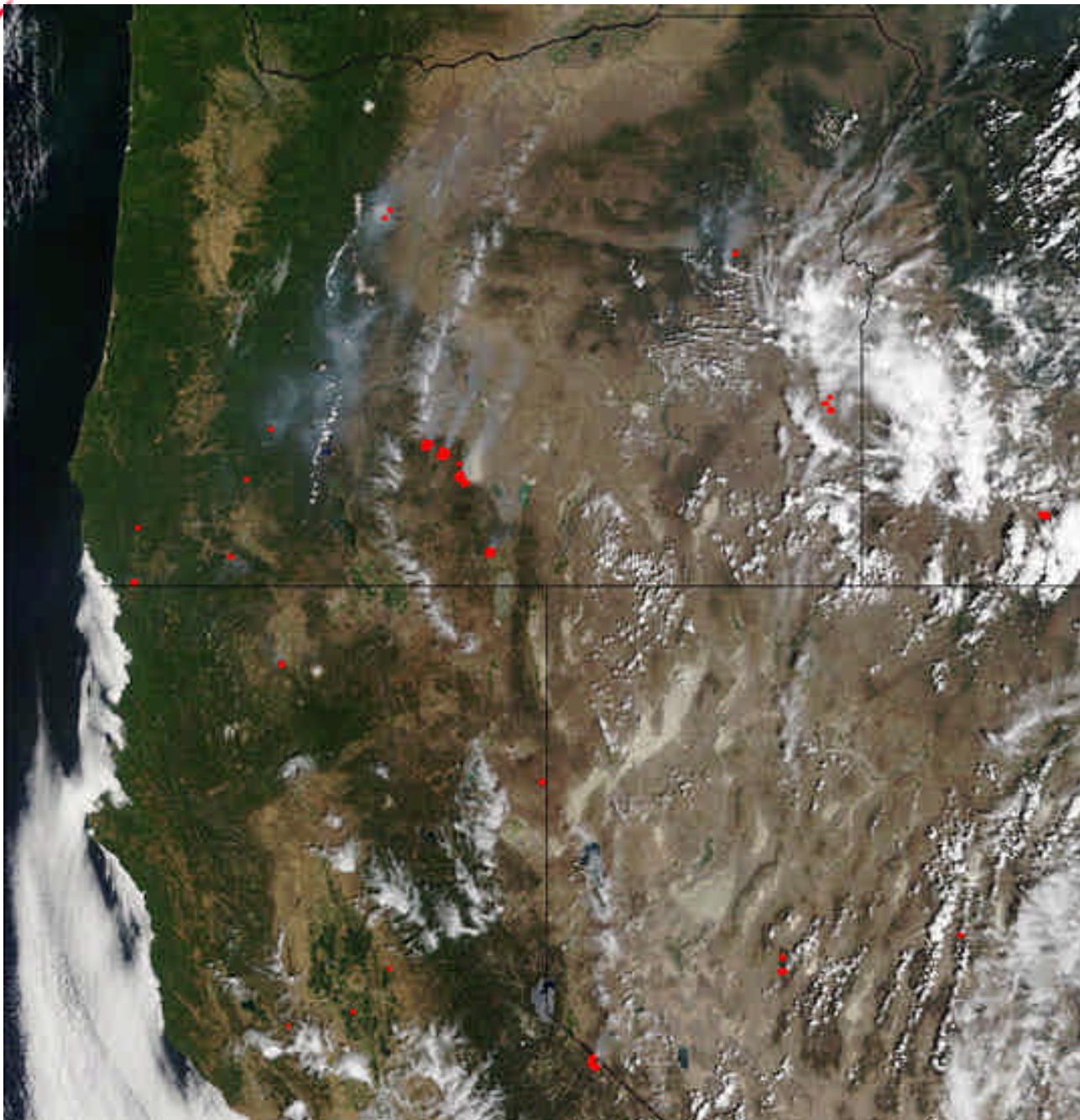
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## NATURAL HAZARDS

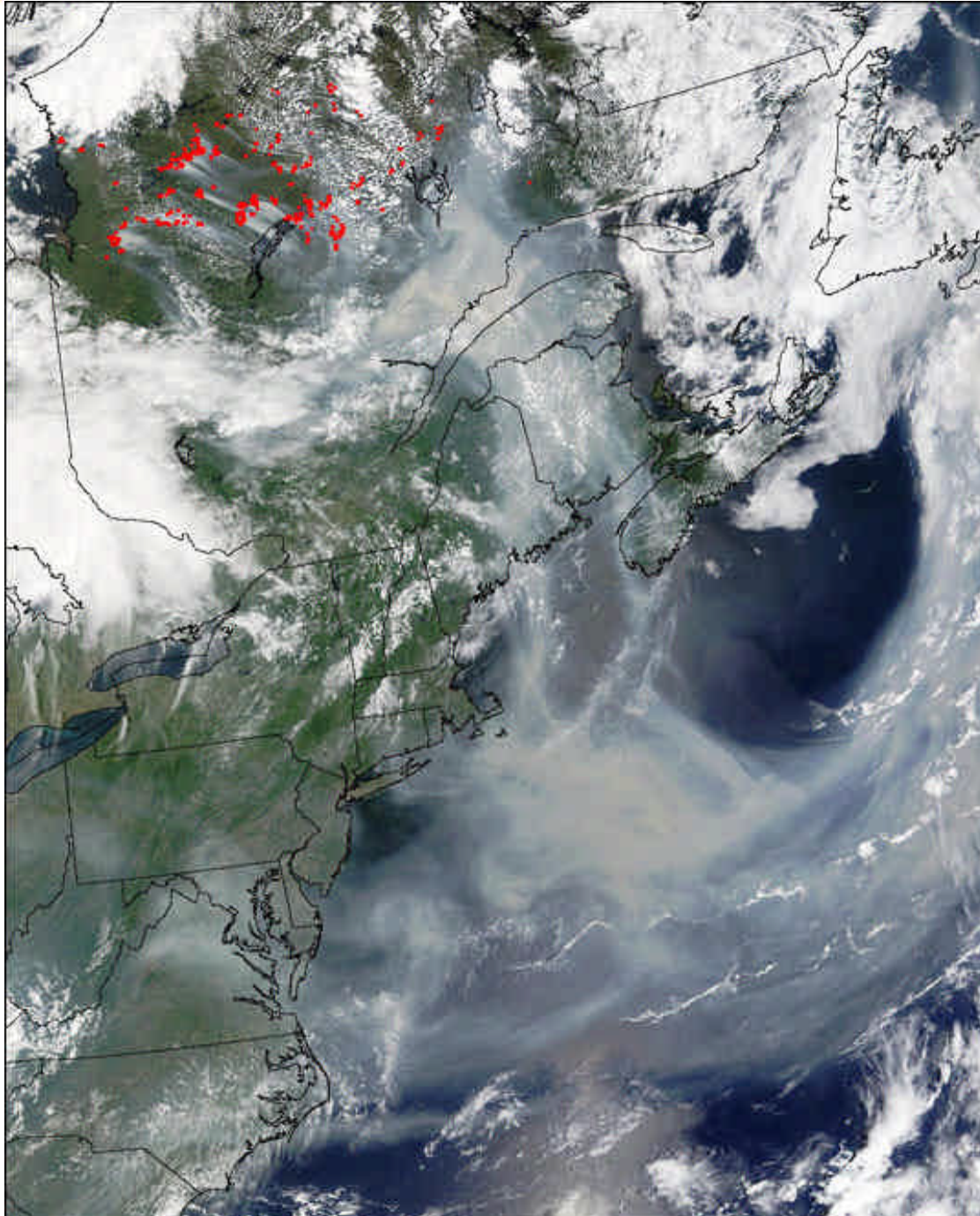


-  DUST & SMOKE
-  FIRES
-  FLOODS
-  SEVERE STORMS
-  VOLCANOES
-  UNIQUE IMAGERY



Fires Scorch  
Oregon

Moderate  
Resolution Imaging  
Spectroradiometer  
(MODIS) image  
from July 15, 2002



## Fires in Québec, Canada, Send Smoke to U.S.

This Moderate Resolution Imaging Spectroradiometer (MODIS) image from July 8, 2002, shows smoke from wildfires (red dots) in Québec, Canada, drifting southward over the United States.