



**DAAC**  
for biogeochemical dynamics  
DISTRIBUTED ACTIVE ARCHIVE CENTER Oak Ridge National Laboratory



# ORNL DAAC News

SUMMER 2006

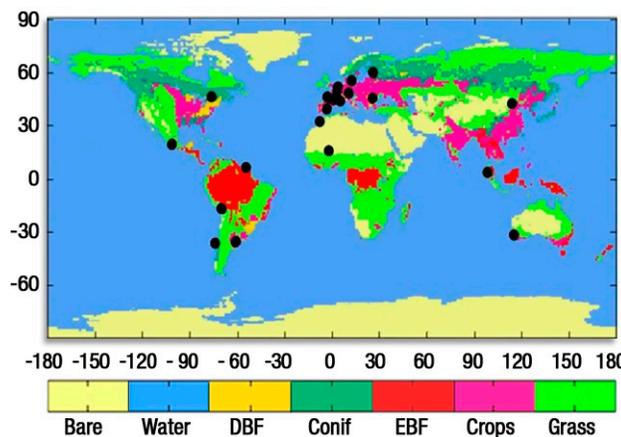
The ORNL Distributed Active Archive Center (DAAC) is a NASA-sponsored source for biogeochemical and ecological data and services useful in environmental research. The ORNL DAAC currently archives and distributes more than 760 data sets categorized as Field Campaign, Land Validation, or Regional and Global Data.

Please visit us online at <http://daac.ornl.gov/> for a comprehensive description of data, services, and tools available from the ORNL DAAC. Archived news can be found at <http://daac.ornl.gov/news.shtml>.

## New Data

During the past six months the ORNL DAAC has archived and begun distributing a number of new data sets, including the following:

- Vegetation data set entitled "Global Fire Emissions Database, Version 2 (GFEDv2)," which contains gridded monthly fire emissions of carbon, CO<sub>2</sub>, CO, and CH<sub>4</sub> for 1997-2004; this data set replaces the Global Fire Emissions Database, Version 1 (GFEDv1);
- Climate data set entitled "Global Maps of Atmospheric Nitrogen Deposition, 1860, 1993, and 2050"; and
- Land Validation data set entitled "Leaf Area Index Maps at 30-m Resolution, VALERI Site, Larose, Canada," which provides local LAI maps for the Larose (Ontario) site in Canada.



VALERI (Validation of Land European Remote sensing Instruments) campaign sites (●).

In addition, the ORNL DAAC has released three data sets from the SAFARI 2000 Project, an international science initiative to study the linkages between land and atmosphere processes in the southern African region:



Kruger National Park, Southern Africa.

- "SAFARI 2000 AVHRR-derived Land Surface Temperature Maps, Africa, 1995-2000";
- "SAFARI 2000 MODIS Airborne Simulator Data, Southern Africa, Dry Season 2000"; and
- "SAFARI 2000 Aerosol Fatty Acid and Stable Isotope Data, Mongu, Dry Season 2000."

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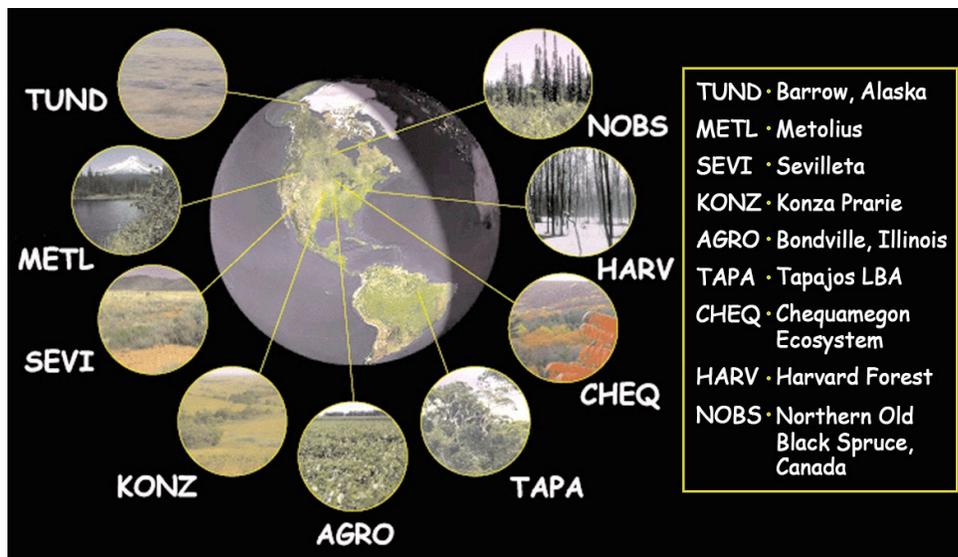
# BIGFOOT Data

The ORNL DAAC has recently released additional data files for four data sets from the BigFoot Project. These data sets include gridded surfaces of land cover, leaf area index (LAI), Net Primary Production (NPP), and Gross Primary Production (GPP) data from 2000 through 2004 for selected EOS Land Validation Sites.

The overall goal of the BigFoot Project was to support the validation of land products from the Moderate Resolution Imaging Spectrometer (MODIS) onboard NASA's Earth Observing System (EOS) satellite Terra. Reflectance data from MODIS were used to produce several science

products including land cover, leaf area index (LAI), and net primary production (NPP).

To validate these products, BigFoot combined ground measurements, additional high-resolution remote-sensing data, and ecosystem process models at nine flux tower sites representing different biomes to evaluate the effects of the spatial and temporal patterns of ecosystem characteristics on MODIS products.



BigFoot study sites.

Please visit the ORNL DAAC's BigFoot Project page [http://daac.ornl.gov/BIGFOOT\\_VAL/bigfoot.html](http://daac.ornl.gov/BIGFOOT_VAL/bigfoot.html) for more information or to access data sets.

# LBA Data

The ORNL DAAC is pleased to announce the distribution of the first of many data sets from the Large-Scale Bio-

sphere - Atmosphere Experiment in Amazonia (LBA) Project. LBA is an international research initiative conducted from 1995-2005 and led by Brazil. The LBA Project encompasses several scientific disciplines, or components. The LBA-ECO component focuses on the question: "How do tropical forest conversion, regrowth, and selective logging influence carbon storage, nutrient dynamics, trace gas fluxes, and the prospect for sustainable land use in Amazonia?"



Often referred to as "The Green Inferno," the Amazon jungle is the largest tropical rain forest on Earth. Although the jungle's area is so big that it reaches out to several different

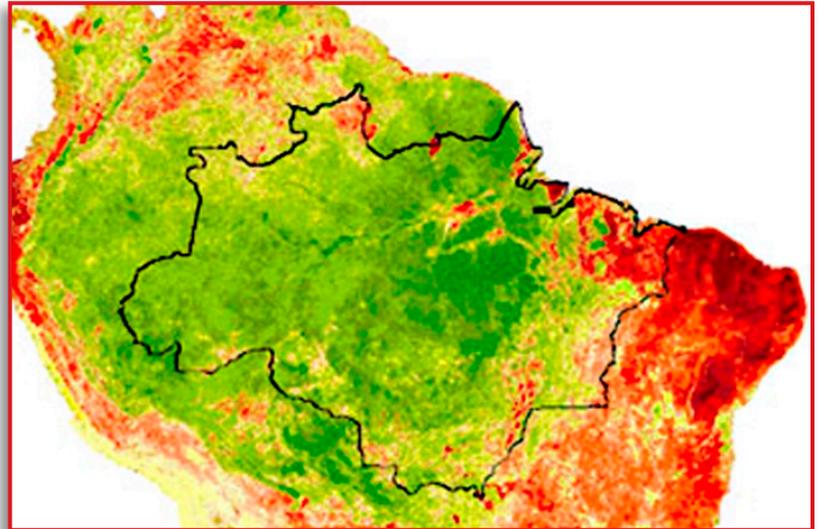
Ji-Parana River in Rondonia, Brazil.

## LBA Data (continued)

countries, most of its area is located within the Brazilian territory.

Amazonia is recognized as the planet's greatest reserve of life forms. Here the largest continuous expanse of tropical forest on Earth harbors approximately one-third of her species. Despite three centuries of scientific study, only a small fraction of its biological richness has been revealed.

The two LBA-ECO data sets currently offered are "LBA-ECO CD-07 GOES-8 L1 Radiance Data for Amazonia: 1998-2001" and "LBA-ECO CD-07 GOES-8 L3 Gridded Surface Radiation and Rain Rate for Amazonia: 1999." The radiance data set contains GOES-8 imager data collected over the LBA-ECO study region as part of an effort to characterize the incoming radiation and precipitation rates at regional scales. The gridded surface radiation data set contains surface down-welling solar radiation, photosynthetically active radiation (PAR) and infrared radiation, as well as precipitation rates for the LBA study area at 8 x 8-km and



*In this image of South America, green shows vegetation growing during the dry season. Red and orange show "browning down" in the dry season. The Amazon watershed boundary is black. Image courtesy of Terrestrial Biophysics and Remote Sensing Lab, University of Arizona.*

half-hourly resolutions for several different time periods from March 1 - October 31, 1999.

In the future, the ORNL DAAC expects to offer close to 300 additional LBA data sets. Please check our LBA project web page (<http://daac.ornl.gov/LBA/lba.html>) periodically for new data. Also, please see the LBA data and publication policy ([http://daac.ornl.gov/LBA/lba\\_data\\_policy.html](http://daac.ornl.gov/LBA/lba_data_policy.html)).

## MODIS – subsetting and Visualization Tool for North America

The ORNL DAAC's work on the new visualization tool for the Moderate Resolution Imaging Spectrometer (MODIS) Land Products Subsets is continuing. The goal of the MODIS Subsets activity is to provide summaries of selected MODIS land products in user-friendly format for the community to use for validation of models and remote-sensing products and to characterize field sites.

Recently the ORNL DAAC has expanded the subsets to areas from 1 x 1 up to 201 x 201 km for North America. We force an odd number of pixels in both

*MODIS subsetting and visualization tool for North America.*

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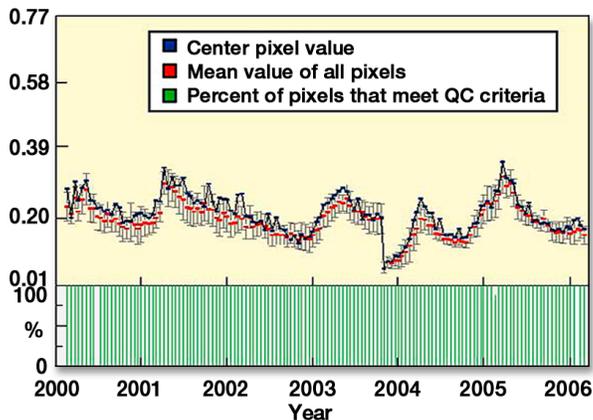


## MODIS (continued from previous page)

width and height so that the area will have a center pixel containing the site of interest.

The new tool generates a time series in less than 60 minutes for most products. Then the tool sends the user an email with a URL containing the time series plus the data in plain ASCII format.

We also still continue to offer users MODIS ASCII subsets by site and by product as well as allowing users to select via a web map server or Google Earth (<http://earth.google.com/>).



Vegetation Index, Area in Southern California.

## ACCESSING ORNL DAAC DATA

Web-based interface:  
<http://daac.ornl.gov/>

Advanced data search:  
<http://mercury.ornl.gov>

Anonymous FTP browsing:  
<ftp://daac.ornl.gov/data/>

EOSDIS Data Gateway: search all DAACs at  
<http://eos.nasa.gov/imswelcome>

User Services Office: [ornldaac@ornl.gov](mailto:ornldaac@ornl.gov)

All data from the DAAC are free and are available electronically.

National Aeronautics and Space Administration:  
<http://www.nasa.gov>

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