



ORNL DAAC

Distributed Active Archive Center for
Biogeochemical Dynamics

WINTER 2011

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 nearly 900 products categorized as Field Campaign, Land Validation, Regional and Global, or Model Archive.

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

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<http://www.nasa.gov>

ORNL DAAC News

Changes for the DAAC!



The DAAC has undergone several changes in the past few months. Chris Lenhardt, former DAAC Deputy Manager, is now DAAC Manager, with the departure of Bruce Wilson [Bruce accepted another position in Oak Ridge National Laboratory (ORNL) and we wish him well!]. Tammy Walker is now the DAAC Deputy Manager, Ben McMurry remains the DAAC Systems Engineer, and Bob Cook remains the DAAC Scientist.

In August, the DAAC moved to a new building at the ORNL along with other climate research-related groups at the ORNL and formed the Climate Change Science Institute (CCSI). The purpose of the CCSI is to coordinate and develop ORNL's efforts in climate change science. Data integration, dissemination and informatics are major efforts within the CCSI, of which the DAAC plays a role in the archiving, dissemination, and distribution of biogeochemical data sets. One of the key benefits of CCSI is to bring together in one building all of the climate and terrestrial biosphere modeling teams, field and experimental ecologists, and the ORNL environmental data centers, the ORNL Distributed Active Archive Center (ORNL DAAC), <http://daac.ornl.gov/>, Carbon Dioxide Information Analysis Center (CDIAC), <http://cdiac.ornl.gov/>, and the Atmospheric Radiation Measurements (ARM) Center, <http://www.archive.arm.gov/>.

Best Practices Document for Data Providers Updated

The ORNL DAAC has updated the document **"Best Practices for Preparing Environmental Data Sets to Share and Archive"**, <http://daac.ornl.gov/PI/BestPractices-2010.pdf>, a data management practices document that data collectors and providers should follow to improve the usability of their data sets. It is also accessible from the DAAC website, <http://daac.ornl.gov/>, through the

"Best Practices" link within the "For Data Providers" menu item under the "Help" tab. After accessing the Data Provider Information page, click on Best Practices.

Best Practices includes seven areas for which detailed information and examples are provided:

- 1) Define the Contents of Your Data Files;
- 2) Use Consistent Data Organization;

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Best Practices Document for Data Providers Updated (continued)

3) Use Consistent File Structure and Stable File Formats For Tabular and Image data; 4) Assign Descriptive File Names; 5) Perform Basic Quality Assurance, 6) Assign Descriptive Data Set Titles; and 7) Provide Documentation.

This guidance is provided for those who perform environmental measurements, compile data from various sources, prepare GIS coverages, and compile remote sensing images for environmental applications, although many of the practices may be useful for other data col-

lection and archiving activities. These practices could be performed at any time during the preparation of the data set, but we suggest that researchers plan for them before measurements are taken and implement them during measurements.

Appendices A-G of the Best Practices guide provide additional information and examples on data file extensions/formats suitable for long-term archiving, and links to additional useful information.

Six LBA Data Sets Published

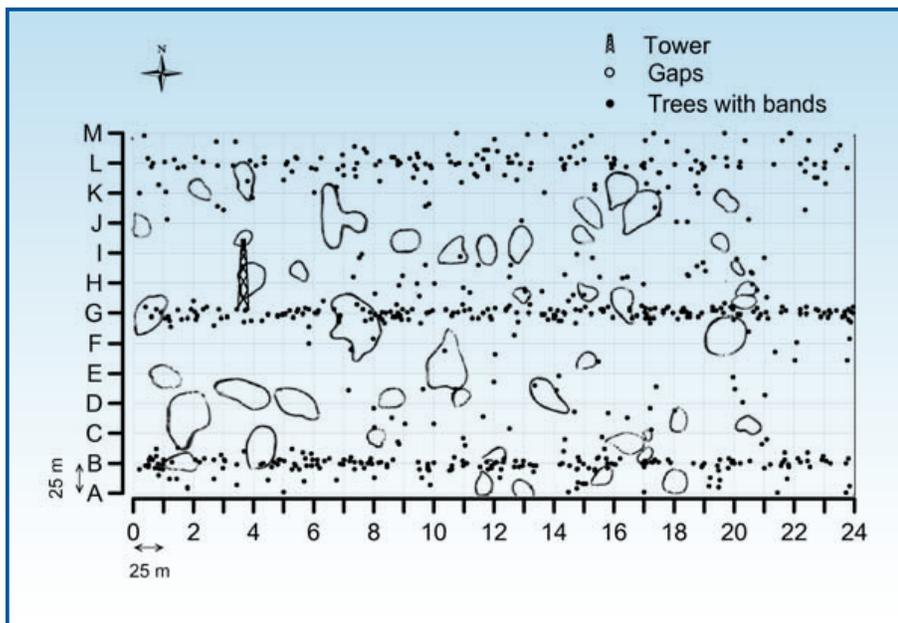
Six data sets were recently published associated with the LBA-ECO component of the Large Scale Biosphere-Atmosphere Experiment in Amazonia (LBA), an international research initiative under the leadership of Brazil.

Four data sets were released from the Carbon Dynamics (CD-04) research team: and report research results from the km 83 logged forest tower site, Tapajos National Forest, Brazil:

(1) LBA-ECO CD-04 Dendrometry, km 83 Tower Site, Tapajos National Forest, Brazil, prepared by M. Figueira, S.D. Miller, C.A.D. de Sousa, M. Menton, A.R. Maia, da Rocha, and M.L. Goulden. Dendrometry measurements are reported for a study conducted over a 4 year period following the implementation of a reduced impact logging management regime. Dendrometer bands were installed to measure diameter growth increments for 234 trees in a 18 ha plot.



Dendrometer bands on trees at the km 83 site.



The 18 ha study plot at the km 83 site. Trees equipped with dendrometer bands before logging in November 2000 are shown as solid points. Gaps created by selective logging in September 2001 are shown as irregular shapes. The plot has 25 N-S transects (numbered 0 to 24) and 13 E-W transects (lettered A to M). The 65 m flux tower is indicated in block G4 (Figueira, et al., 2008).

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Six LBA Data Sets Published (continued)

(2) *LBA-ECO CD-04 Leaf Area Index, km 83 Tower Site, Tapajos National Forest, Brazil*, prepared by M. Figueira, C.A.D. de Sousa, M. Menton, R. Juarez, H.R. da Rocha, S.D. Miller, and M.L. Goulden. This data set reports on leaf area determination utilizing a computer scanner and image processing software.

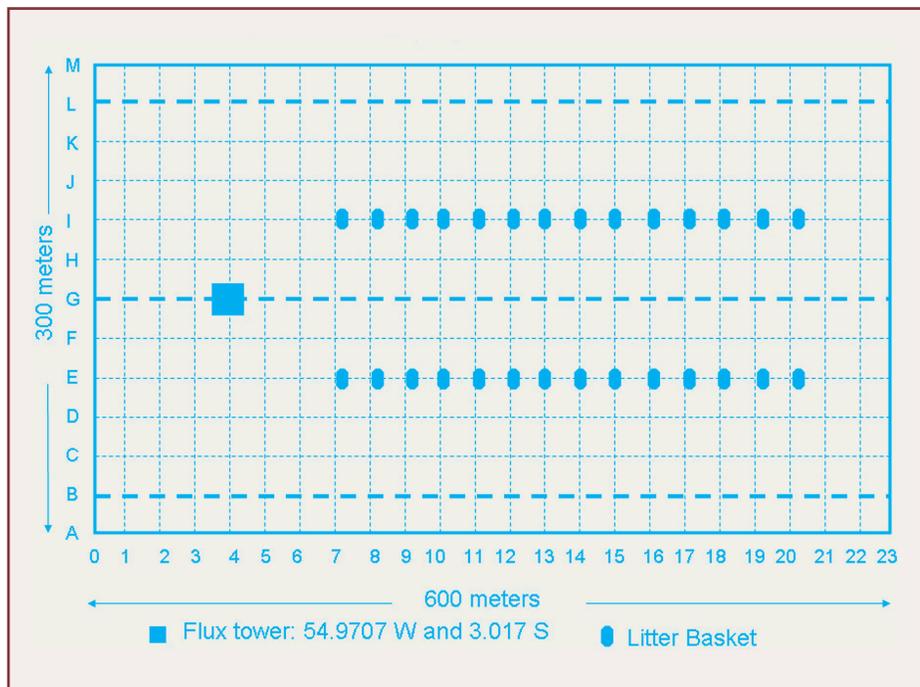
(3) *LBA-ECO CD-04 Biomass Survey, km 83 Tower Site, Tapajos National Forest, Brazil*, by M. Menton, M. Figueira, C.A.D. de Sousa, S.D. Miller, H.R. da Rocha, and M.L. Goulden. This data set contains the results of a biometric tree survey of a 19.25 ha area (300 m N-S, 600 m E-W) east (upwind) of the eddy flux tower at the km 83 logged forest tower site.

(4) *LBA-ECO CD-04 Leaf Litter Data, km 83 Tower Site, Tapajos National Forest, Brazil*, prepared by M. Figueira, C.A.D. de Sousa, M. Menton, R. Juarez, H.R. da Rocha, S.D. Miller, and M.L. Goulden. This data set reports on above-ground litter productivity.

Two data sets were from the Land Cover and Land Use Change (LC-09) Team:

(5) *LBA-ECO LC-09 Landsat TM and ETM+ Data, Sites in Rondonia and Para, Brazil: 1985-2004*. This data set, prepared by E.S. Brondizio and E.F. Moran, includes rectified .tif format Landsat 5 TM and Landsat 7 ETM+ scenes from near the study sites of Altamira, Santarem, Ponta de Pedras, and Bragantina in the state of Para, Brazil and Machadinho D'Oeste in Rondonia, Brazil.

(6) *LBA-ECO LC-09 Natural, Infrastructure, and Boundary Features, Amazonian Sites, Brazil*. This data set was also prepared by E.S. Brondizio and E.F. Moran, and M. Batistella, and includes shapefiles of cities, rivers and streams, roads, and study area boundaries of several Amazonian study sites: Altamira, Santarem, Bragantina, and Ponta de Pedras, in the state of Para, and one site at Machadinho D'Oeste, in the state of Rondonia. Data from Brazil were digitized from Instituto Nacional de Colonizacao e Reforma Agraria (INCRA) maps and other data from Instituto Brasileiro de Geografia e Estatistica (IBGE).



Litter basket sampling grid for LAI determination/litter basket locations at the km 83 site.

Spatial Data Access Tool (SDAT)

The Spatial Data Access Tool (SDAT), an OGC Standards-based Geospatial Data visualization download tool, now includes 53 data sets. The ORNL DAAC provides users access to various geospatial data, including ORNL DAAC archived data through standards based *OGC* (Open Geospatial Consortium) Web services. The OGC standards supported by ORNL DAAC are Web Map Service (WMS) and Web Coverage Service (WCS).

SDAT, <http://webmap.ornl.gov/wcsdown/>, is available from the “Data Tools” tab at the DAAC website <http://daac.ornl.gov/>. A “help” button located on the right side of the SDAT web page provides users with examples and informative presentations.



ORNL Distributed Active Archive Center
P.O. Box 2008, MS 6407
Oak Ridge National Laboratory
Oak Ridge, TN 37831-6407

Participation in the NASA Customer Satisfaction Survey is Appreciated!



During mid-August and early September 2010, ORNL DAAC users received an e-mail invitation from Claes Fornell International (CFI) Group on behalf of NASA to participate in a Web-based survey about the quality and utility of ORNL DAAC products and

services. Your participation was appreciated! ORNL DAAC received a composite customer satisfaction index score of 78, which included high scores in the areas of Product Search (77), Product Selection and Order (79), and Product Documentation (79). We are currently reviewing the comments and suggestions that were provided, and examining CFI Group's detailed performance analysis.

ORNL DAAC wishes to extend a special Thank You to those of you who participated in this annual survey. Your feedback affects our future performance, and helps us to identify science needs. ORNL DAAC is one of twelve NASA Earth Observing System Data and Information System (EOSDIS) data centers evaluated by this survey.

ACCESSING ORNL DAAC DATA

Web-based interface:

<http://daac.ornl.gov/>

Advanced data search:

<http://mercury.ornl.gov/ornldaac/>

Anonymous FTP browsing:

<ftp://daac.ornl.gov/data/>

DAAC WebGIS:

<http://daac.ornl.gov/mapserver.shtml>

MODIS Land Products Subsets:

<http://daac.ornl.gov/MODIS/modis.shtml>

DAAC FLUXNET Project:

<http://daac.ornl.gov/FLUXNET/fluxnet.shtml>

DAAC SDAT:

<http://webmap.ornl.gov/wcsdown>

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

National Aeronautics and Space Administration:

<http://www.nasa.gov>