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# LBA-ECO CD-05 Forest Understory Fuel Loads, Paragominas, Para, Brazil: 2001

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Revision date: July 22, 2014

## Summary:

This data set contains estimates of understory fuel loads (forest litter) at six locations near Paragominas in Northeastern Amazonia. Samples were collected from three different forest conditions: primary forest, logged forest, and burned forest. Volumes and weights are provided by size and condition class based on the planar transect method of estimating understory fuel loads (Brown 1971). Means and standard errors are reported from 3 transects in each forest x condition class.

There is one comma-delimited data file (.csv) with this data set.

**DATA QUALITY STATEMENT:** The Data Center has determined that there are questions about the quality of the data reported in this data set. The data set has missing or incomplete data, metadata, or other documentation that diminishes the usability of the products.

## Data Citation:

### Cite this data set as follows:

Lefebvre, P.A., D.C. Nepstad, and P.R. Moutinho. 2014. LBA-ECO CD-05 Forest Understory Fuel Loads, Paragominas, Para, Brazil: 2001. Data set. Available on-line [<http://daac.ornl.gov>] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, USA.  
<http://dx.doi.org/10.3334/ORNLDAAC/1233>

## Implementation of the LBA Data and Publication Policy by Data Users:

The LBA Data and Publication Policy [[http://daac.ornl.gov/LBA/lba\\_data\\_policy.html](http://daac.ornl.gov/LBA/lba_data_policy.html)] is in effect for a period of five (5) years from the date of archiving and should be followed by data users who have obtained LBA data sets from the ORNL DAAC. Users who download LBA data in the five years after data have been archived must contact the investigators who collected the data, per provisions 6 and 7 in the Policy.

This data set was archived in July 2014. Users who download the data between July 2014 and July 2019 must comply with the [LBA Data and Publication Policy](#).

Data users should use the Investigator contact information in this document to communicate with the data provider.

Data users should use the Data Set Citation and other applicable references provided in this document to acknowledge use of the data.

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## 1. Data Set Overview:

**Project:** LBA (Large-Scale Biosphere-Atmosphere Experiment in the Amazon)

**Activity:** LBA-ECO

**LBA Science Component:** WHRC Tropical Forest Ecology Data for Amazonia and the Cerrado

**LBA Science Component:** Carbon Dynamics

**Team ID:** CD-05 (Nepstad / Miranda)

The investigators were Nepstad, Daniel Curtis; Miranda, Heloisa S.; Andrade, Sergio Viana de ; Arce, Javier Alberto; Asner, Gregory Paul; Bamberger, Barbara; Belk, Elizabeth Leslie; Bishop, Joshua Thomas; Breyer, Lacey Medeiros; Cardinot, Gina Knust; Carvalho, Oswaldo de; Chermont, Larissa Steiner; Dias-Filho, Moacyr Bernardino; Diaz, Maria del Carmen Vera; Figueiredo, Ricardo de Oliveira; Guerrero, Jose Benito; Holbrook, Noel Michele; Kingerlee, Wendy; Klink, Carlos Augusto; Lefebvre, Paul A.; Maklouf, Eduardo Jorge; Markewitz, Daniel; Merry, Frank David; Miranda, Antonio C.; Monacao, Luciana; Morton, Douglas Christopher; Moutinho, Paulo Roberto de Souza; Oliveira, Rafael Silva; Peters, Charles Merideth; Pinto, Flavia dos Santos ; Quesada, Carlos Alberto Nobre; Ray, David Graham; Rivero, Sergio; Santos, Alexandre J. B. ; Schwalbe, Karen R.; da Silva, Dulce Alves; Solorzano Cardenas, Luis Anibal and da Silva, Wanderley Rocha . You may contact Nepstad, Daniel C. (dnepstad@whrc.org) ; Moutinho, Paulo Roberto de Souza (moutinho@amazon.com.br) ; Lefebvre, Paul A. (paul@whrc.org) and Kingerlee, Wendy (wkinglerlee@whrc.org)

**LBA Data Set Inventory ID:** CD05\_Forest\_Fuel\_Loads

This data set contains estimates of understory fuel loads (forest litter) at six locations near Paragominas in Northeastern Amazonia. Samples were collected from three different forest conditions: primary forest, logged forest, and burned forest. Volumes and weights are provided by size and condition class based on the planar transect method of estimating understory fuel loads (Brown 1971). Means and standard errors are reported from 3 transects in each forest x condition class.

## 2. Data Characteristics:

Data are provided in a single comma-delimited file: **CD05\_Fuel\_Loads.csv**

Data quality issues: There are no specific coordinates or dates for the sampling locations and the data units and descriptions could not be verified.

Table 1. Data file description

Column	Column Heading	Units/format	Description
1	Location		Study location: Bosque, Jussara, Pimental, Pitangueiras, Sgertrudis, Vitoria
2	Cover_type		Forest cover type: Logged forest, Burned forest, or Primary forest
3	Size_class	cm	Size and condition class based on the planar transect method of estimating understory fuel loads (Brown 1971), reported in centimeters (cm)
4	Fuel_load_vol	m <sup>3</sup> /ha-1	Fuel load volume: mean obtained from 3 transects in each forest cover type x size & condition class, reported in m <sup>3</sup> /ha-1
5	Vol_stderr		Standard error of mean fuel load volume
6	Fuel_load_wt	tons/ha-1	Fuel load weight: mean obtained from 3 transects in each forest cover type x size & condition class, reported in tons/ha-1
7	Wt_stderr		Standard error of mean fuel load weight

### Example Data Records:

```
Location,Cover_type,Size_class,Fuel_load_vol,Vol_stderr,Fuel_load_wt,Wt_stderr
Bosque,Logged forest,0-0.6cm,0.701,0.043,0.484,0.03
Bosque,Logged forest,0.6-2.5cm,0.79,0.167,0.545,0.115
Bosque,Logged forest,2.5-7.6cm,8.39,1.102,5.789,0.76
...
Jussara,Burned forest,>7.6cm rotten,11.97,3.009,6.195,1.557
Pimental,Logged forest,0-0.6cm,0.809,0.085,0.558,0.058
Pimental,Logged forest,0.6-2.5cm,2.931,0.575,2.022,0.397
...
Vitoria,Primary forest,2.5-7.6cm,9.858,1.616,6.802,1.115
Vitoria,Primary forest,>7.6cm solid,21.018,9.798,14.503,6.761
```

Vitoria, Primary forest, &gt;7.6cm rotten, 23.758, 8.326, 12.295, 4.308

**Site boundaries:** (All latitude and longitude given in decimal degrees)

Site (Region)	Westernmost Longitude	Easternmost Longitude	Northernmost Latitude	Southernmost Latitude
Para eastern (Belem)	-47.5160	-47.5160	-2.9830	-2.9830

**Time period:**

- The data set covers the period 2001/01/01 to 2001/01/01.
- Temporal Resolution: unknown

**Platform/Sensor/Parameters measured include:**

- FIELD INVESTIGATION / ANALYSIS / FIRES
- FIELD INVESTIGATION / ANALYSIS / FOREST FIRE SCIENCE
- FIELD INVESTIGATION / ANALYSIS / DROUGHT
- FIELD INVESTIGATION / WEIGHING BALANCE / LITTER CHARACTERISTICS

### 3. Data Application and Derivation:

These data could be used to calculate forest flammability to fire or to estimate fire intensity.

### 4. Quality Assessment:

**Data quality issues:** There are no specific coordinates or dates for the sampling locations and the data units and descriptions could not be verified.

### 5. Data Acquisition Materials and Methods:

Site description:

The fuel load samples were collected from six locations in the Paragominas region of northeast Para state, in the eastern Brazilian Amazonia. The soils are clay-rich, the mean annual precipitation is 1,800 mm, and is highly seasonal.

Sample collections:

The samples were collected from different forest conditions: primary forest, logged forest, and burned forest using techniques described in Brown et al., (1982). The procedure furnishes estimates for live and dead vegetation by diameter class. Volumes and weights are provided by size and condition class based on the planar transect method of estimating understory fuel loads (Brown 1971).

### 6. Data Access:

These data are available through the Oak Ridge National Laboratory (ORNL) Distributed Active Archive Center (DAAC).

#### Data Archive Center:

Contact for Data Center Access Information:

E-mail: [uso@daac.ornl.gov](mailto:uso@daac.ornl.gov)

Telephone: +1 (865) 241-3952

### 7. References:

Brown J.K., R.D. Oberheu, and C.M. Johnston. 1982. Handbook for inventorying surface fuels and biomass in the Interior West, General Technical Report INT-129. USDA Forest Service Ogden, 48 pp.

Brown, J. (1971). A Planar intersect method for sampling fuel volume and surface area. Forest Science, 17(1): 96-102.

#### Related Publications

- Alencar, A.A.C., L.A. Solorzano, and D.C. Nepstad. 2004. Modeling forest understory fires in an eastern Amazonian landscape. Ecological Applications 14(4):S139.
- Nepstad, D., P. Lefebvre, U.L. Da Silva, J. Tomasella, P. Schlesinger, L. Solorzano, P. Moutinho, D. Ray, and J.G. Benito. 2004. Amazon drought and its implications for forest flammability and tree growth: a basin-wide analysis. Global Change Biology 10(5):704-717.

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