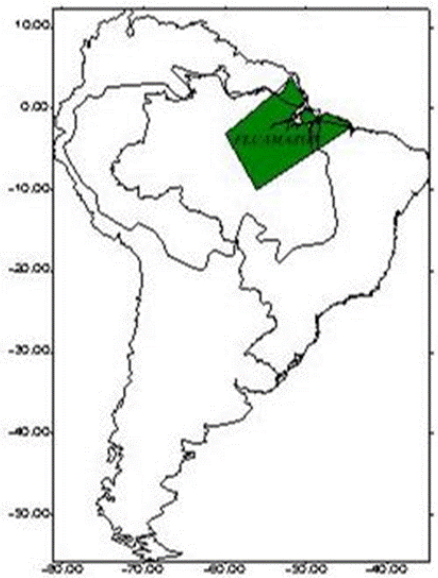
Pre-LBA FLUAMAZON Experiment Data

Summary

The FLUAMAZON Experiment data set includes meteorological data collected with radiosondes to examine the moisture flux from the northern coast of South America (near the mouth of the Amazon River) into central Amazonia. The measurements were collected from November 23, to December 21, 1989 during the period of transition between the dry and humid seasons in the region. Some of the studies performed with data from FLUAMAZON were related to the atmospheric thermodynamic structure over Amazonia.

During FLUAMAZON, radiosonde measurements were made simultaneously in five different locations: Alcantara, Belem, Oiapoque, Manaus, and Alta Floresta. ASCII text data files for each location have been compiled and compressed into site-specific zipped files.

AREA OF THE EXPERIMENT



The processed, quality controlled and integrated data in the documented Pre-LBA Data sets were originally published as a set of three CD_ROMs (Marengo and Vistoria, 1998) but are now archived individually.

Pre-LBA Data Set Collection Initiative

The Pre-LBA data set collection was dedicated to providing information to the LBA research community about existing data that have been collected in Amazonia during the 20 years prior to 1998. The main goal of this activity was to compile and document existing data sets in a consistent manner and make them available prior to the beginning of the LBA experiment.

The data set compilation efforts included satellite imagery, micrometeorological observations, near surface and upper-air atmospheric conditions, surface biophysical and hydrological measurements obtained from 1970s - 1990s in a number of field experiments. Data were collected for several intensive field campaigns, during the rainy and dry seasons, and other periods that vary from short intensive field campaigns to several years worth of observations, measured sometimes with a time resolution of 5 minutes and 1 hour.

Citation:

Cite this data set as follows:

Fisch, G., A. Lola, H. Soares, I. Silva, E. Rocha, C. Nobre, and R. Victoria. 2008. Pre-LBA FLUAMAZON Experiment Data. Data set. Available on-line [http:// daac.ornl.gov] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, U.S.A. doi:10.3334/ORNLDAAC/896.

The original CD-ROM citation is as follows:

Marengo, J. A., and R. L. Victoria. 1998. Pre-LBA Data Sets Initiative, 3 vols. [Pre-Large-Scale Biosphere-Atmosphere Experiment in Amazonia Data Sets Initiative, 3 vols.]. CD-ROM. Centro de Previsao de Tempo e Estudios Climaticos, Instituto Nacional de Pesquisas Espaciais (CPTEC/INPE) [Center for Weather Forecasting and Climate Study, National Institute for Space Research], Sao Paulo, Brazil.

Pre-LBA Data Set Collection Metadata	
Campaign: FLUAMAZ > FLUAMAZON EXPERIMENT **Investigator** **Last_name: Fisch**	**Start_Date: 1989-11-23** **Stop_Date: 1989-12-21** **Coverage** **Southernmost_latitude: 4N** **Northernmost_latitude: 9S**

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Keywords

Moisture flux
Moisture balance

Westernmost_longitude: 44W
Easternmost_longitude: 59W

Minimum_altitude: 13m
Maximum_altitude: 288m
Minimum_depth: surface

Location: SOUTH AMERICA

Author

Last_name: Nobre
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Address: CPTEC-INPE

Data_Center

Data_Center_Name: INPE, UFPA, CENA
Data_Center_URL:
http://www.cptec.inpe.br/lba/prelba/prelba.html
Dataset_ID: FLUAMAZ

Data_Center_Contact

Last_name: Rocha
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Address: INPE/CPTEC

Originating_Center: INPE, UFPA, CENA

Constraints

Access: Data may not be used for commercial applications.
Use: Data may not be used for commercial applications.

Data Description

During FLUAMAZON, radiosonde measurements were made simultaneously in five different locations: Alcantara, Belem, Oiapoque, Manaus, and Alta Floresta. ASCII text data files for each location have been compiled and compressed into site-specific zipped files.

Data File Information

Each hourly radiosonde profile is stored in a separate ASCII space-delimited file. The name of the files includes information about the site from where it was launched and the date and time. The form of the file names is:

SSDDMMHH.ZVD

where SS is the abbreviation for the site (AL = Alcantara, AF = Alta Floresta, MN = Manaus, BE = Belem, OI = Oiapoque).

DD is the numerical day of the month when the launch was made,
MM is the numerical month of the year when the launch was made,
HH is the UTC (GMT) hour when the launch started.

For sites AL = Alcantara and OI = Oiapoque:

Each file contains 1 header record followed by the data records. The header record contain:

Record 1: Number of sounding levels/data records

For sites , AF = Alta Floresta, BE = Belem, and MN = Manaus

Each file contains 4 header records followed by the data records. The header records contain:

Record 1: Name of the data file : ex. MA041206.ZVD
Record 2: DDMMHH as described above.
Record 3: Time: 00Z, 06Z, 12Z, 18Z
Record 4: Number of sounding levels/data records

Each data record contains the following fields:

Geo Temp UR DIR and VEL, where:

Geo - Is the geopotential height in meters.
Temp - Air temperature (C).
UR - Relative humidity (%).

DIR - Wind direction with respect to north (degrees).
VEL - Wind velocity (m/s).

Note that the Alcantara and Oiapoque stations used 24 to indicate the 00 hour.

Example Data Records:

(AL011212.ZVD)

```
168
 55        1006       31        67.22106    67        5.4
 95        1001.7     30.1      67.03893    62        6.5
 138       996.8      29.1      67.24245    60        7.2
 186       991.4      27.9      69.07985    57        7.8
 238       985.6      26.7      70.12843    56        8.399999
 290       979.9      26.3      70.92128    54        8.7
 342       974.1      25.9      73.0655     53        9
 394       968.4      25.4      75.26316    53        9.100001
 445       962.8      24.8      77.04418    52        9.2
 497       957.2      24.2      78.87874    51        9.2
 548       951.7      23.6      80.27056    51        9.2
 598       946.2      23.1      82.21767    51        9.100001
 644       941.2      22.7      84.23256    51        9.100001
 696       935.7      22.3      81.09953    51        9.100001
 749       930        21.9      79.0385     51        9.100001
 802       924.4      21.5      78.98055    52        9.2
 853       918.9      21.1      78.92241    54        9.2
```

(AF021206.ZVD)

```
af021206.ZVD
021206
06Z
 55
 978  288  23  88  1  60
 952  523.6775  22.3  82  3.957246  311.7666
 941  625.1377  22.1  84  4.688274  309.448
 938  653.0071  22  87  4.961057  308.5984
 910  917.0682  21.4  74  7.579215  303.613
 878  1227.45  19.7  73  7.599794  298.2456
```

```
850  1506.739  18  79  7.396914  292.3936
839  1618.385  16.7  82  7.338627  289.9529
820  1813.83  15.6  78  7.736614  275.0907
800  2023.77  15  72  9.064346  265.0707
789  2141.132  14.1  74  9.901184  260.7119
759  2467.972  11.9  81  12.3017  251.7189
```

References

Rocha, E. Balanco de Umidade na Amazonia Durante o Fluamazon Dissertaco de Mestrado, IAG-USP, Sao Paulo, 1991.

Data Access:

This data is available through the Oak Ridge National Laboratory (ORNL) Distributed Active Archive Center (DAAC) [http://daac.ornl.gov].

Data Archive Center:

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