NPP Tropical Forest: Cinnamon Bay, U.S. Virgin Islands, 1983-2003, R1

Get Data

Revision date: September 6, 2013

Summary:

This data set contains three ASCII files (.txt format). One data file contains above-ground biomass, litter, litterfall, herbivory, biomass change, and above-ground net primary productivity (ANPP) estimates for a late secondary moist subtropical forest based on measurements from 16 permanent study plots located along an elevational (60-290 m) and topological gradient within the 132-ha Cinnamon Bay watershed on St. John, U.S. Virgin Islands. The purpose of the study was to provide information on forest structure, species composition, and forest productivity along environmental gradients, including the effects of hurricanes and drought. The other two files provide climate records from nearby weather stations (1917-1981).

Above-ground biomass was measured every 5 years (1983-2003). Litterfall accumulation was determined in 1992-1993. In 1983, total above-ground biomass on all plots combined averaged 13,870 g/m^2; by 2003 during a post-hurricane recovery period, it had declined by nearly 7 percent. In 1983, biomass was greatest on the summit, intermediate on slopes and valleys, and least on ridges; by 2003, the quantities for all sites had converged except on the summit plot.

In 1992, ANPP was estimated based on annual litterfall accumulation (897 g/m^2/year) plus biomass change due to delayed mortality (142 g/m^2/year) plus estimated herbivory (25 g/m^2/year), giving a total ANPP of 1,064 g/m^2/year. Periodic storms and drought appear to maintain the forest in a disturbed state.

Revision Notes: The NPP data file has been revised to add additional above-ground biomass estimates and to extend the time series. See the Data Set Revisions section of this document for detailed information.

Figure 1. Secondary forest on the INGA Reef Bay trail, near the Cinnamon Bay tropical forest site, St. John, U.S. Virgin Islands. (Photograph taken about August, possibly 1992, by Dr. P. Weaver, U.S. Forest Service, Rio Pedras, Puerto Rico). (CNN1-1.gif)

Additional Documentation:

The Net Primary Productivity (NPP) data collection contains field measurements of biomass, estimated NPP, and climate data for terrestrial grassland, tropical forest, boreal forest, and tundra sites worldwide. Data were compiled from the published literature for intensively studied and well-documented individual field sites and from a number of previously compiled multi-site, multi-biome data sets of georeferenced NPP estimates. The principal compilation effort (Olson et al., 2001) was sponsored by the NASA Terrestrial Ecology Program. For more information, please visit the NPP web site at http://daac.ornl.gov/NPP/npp_home.html.

Data Citation:

Cite this data set as follows:

Weaver, P.L. 2013. NPP Tropical Forest: Cinnamon Bay, U.S. Virgin Islands, 1983-2003, R1. 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/473

This data set was originally published as:

Weaver, P.L. 1999. NPP Tropical Forest: Cinnamon Bay, U.S. Virgin Islands, 1983-2003, R1. Data set. Available on-line [http://daac.ornl.gov] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, U.S.A.

Table of Contents:

1. Data Set Overview:

Project: Net Primary Productivity (NPP)

Above-ground net primary productivity (ANPP) was estimated by summing annual total litterfall amount, above-ground biomass accumulation, and herbivory rate.

St. John is a small island, 5,200 ha in area, situated about 90 km east of Puerto Rico. The island was dominated by plantation agriculture in the 18th and 19th centuries, much of which was abandoned after the abolition of slavery in the late 1800s. Most of St. John is now covered with secondary forest of varying ages. The 132-hectare Cinnamon Bay watershed is occupied by late secondary forest, comprised mainly of indigenous species. Annual rainfall averages about 1,130 mm, with a relatively dry period (< 60 mm/month) from February to April.

The Cinnamon Bay site comprises sixteen permanent plots, each 10 m x 50 m, varying in elevation and topography and scattered throughout the Cinnamon Bay watershed (18.33 N -64.80 W). Above-ground biomass was measured in 1983, 1988, 1993, 1998, and 2003, and litterfall accumulation was determined in 1992-1993. In 1983, total above-ground biomass on all plots combined averaged 13,870 g/m^2; by 2003, it had declined by nearly 7 percent. In 1983, biomass was greatest on the summit, intermediate on slopes and valleys, and least on ridges; by 2003, the quantities for all sites had converged except on the summit plot.

In 1992, during the post-Hurricane Hugo recovery period, ANPP was estimated based upon one year of litterfall measurement (897 g/m^2/year) plus biomass change due to delayed mortality (142 g/m^2/year) plus estimated herbivory (25 g/m^2/year) for a total of 1,064 g/m^2/year (Weaver, 1996; 2006; Scurlock and Olson, 2012). Pre-hurricane estimates of biomass increment were higher (220 g/m^2/year); however, frequent storms (every 15 years on average) and periodic drought appear to maintain the forest in a disturbed state, so the post-hurricane measurements may be considered typical.

Long-term climate data are available from Charlotte Amalie / Harry Truman airport in St. Thomas, USVI (18.33 N 64.97 W), together with a 23-year rainfall record from Cruz Bay, 5 km east of the study site.

2. Data Description:

Spatial Coverage

Site: Cinnamon Bay, U.S. Virgin Islands

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

Site (Region)	Westernmost Longitude	Easternmost Longitude	Northernmost Latitude	Southernmost Latitude	Elevation (m)
Cinnamon Bay, U.S. Virgin Islands	-64.80	-64.80	18.33	18.33	60-290

Site Information

The Cinnamon Bay watershed covers about 132 ha or about 2.5 percent of St. John. It is in the north central part of the island. The watershed ranges from sea level to about 300 m in elevation and is drained by two major guts. Steep slopes are covered with loose rock and numerous narrow valleys filled with boulders characterize the landscape. Part of the Cinnamon Bay coastal plain has been developed for tourism.

St. John has a tropical maritime climate. The island lies in the path of the northeast trade winds, but east and southeast winds are also common. Relative humidity averages about 75 percent. In general, the continuous trade winds accompanied by low rainfalls, high evapotranspiration, long hours of sunshine, and high ambient temperatures accentuate drought conditions on the island. Much of St. John's rainfall is orographic and is deposited as the moisture-laden trades pass over the island's interior. Easterly wind waves also produce rainfall, mainly from May through November. Tropical storms and hurricanes occasionally develop in the easterly waves and may cause high winds and heavy downpours. These phenomena occur mainly from July through October, with the greatest number of events during August and September. Annual rainfall in the mountainous interior stretching from Cinnamon Bay to the lower southeastern slopes of Bordeaux averages around 1,130 mm. The annual mean temperature is 24.8 C. August is the warmest month, averaging 26.3 C, and January the coolest month, averaging 23.1 C.

In 1956, much of St. John Island, including the Cinnamon Bay watershed, was designated as part of the Virgin Islands National Park, and agriculture, grazing, hunting, and wood cutting within Park boundaries was gradually eliminated. In 1976 the Virgin Islands National Park is designated as an International Biosphere Reserve. Today, much of St. John is covered by late secondary forest which began to regenerate in the mid to late 1800s. Weaver (2006) provides a chronology of major events in the history of St. John (i.e., exploration, settlement, forest exploitation, forest recovery, terrestrial research, and tourism), with emphasis on the Cinnamon Bay watershed.

The Cinnamon Bay watershed vegetation is classified as Subtropical Moist Forest using the Holdridge life zone system. The forest type in the study area is mainly dry evergreen woodland with small areas of humid gallery and basin forests. The forest is at least 125 years old.

Spatial Resolution

The Cinnamon Bay biomass plots cover a total area of 0.8 ha. The 16 permanent plots each measure 50 x 10 m in size and are located along an elevational gradient from 60 to 290 m. Litterfall baskets were 0.25 m^2 in size. Loose litter was collected using a 0.25 m^2 wood frame.

Temporal Coverage

Biomass measurements were made during June or July in 1983, 1988, 1993, 1998, and 2003. Litterfall baskets were installed on February 1, 1992. Loose litter was collected on January 31 and July 31, 1992. Precipitation data are available for Cruz Bay (5 km east of the study site) from 1961/01/01 through 1983/12/31. Temperature and additional precipitation data are available for Charlotte Amalie, St. Thomas, U.S. Virgin Islands from 1917/07/01 through 1981/12/31.

Temporal Resolution

Biomass measurements were made at 5-year intervals. Litterfall was collected monthly for one year. Loose litter was collected on two occasions in 1992.

Above-ground biomass and ANPP estimates are based on plant dry matter accumulation, expressed as g/m^2 and g/m^2/yr (dry matter weight), respectively. Climate data are expressed as monthly and annual precipitation amounts (mm), monthly and annual mean maximum/minimum temperature (C), and monthly and annual average temperature (C).

Data File Information

Table 1. Data files in this data set archive

FILE NAME	FILE SIZE	TEMPORAL COVERAGE	FILE CONTENTS
cnn_npp_r1.txt	3.3 KB	1983/06/01-2003/07/31	Above-ground biomass, loose litter, litterfall, herbivory, biomass change, and ANPP data for a 125-year-old tropical forest in the Cinnamon Bay watershed on St. John, U.S. Virgin Islands
cnn1_cli.txt	4.0 KB	1961/01/01-1983/12/31	Mean monthly and annual precipitation data from a weather station at Cruz Bay, 5 km east of study site
cnn2_cli.txt	20 KB	1917/07/01-1981/12/31	Mean monthly and annual precipitation and temperature data from a weather station at Charlotte Amalie, St. Thomas, U.S. Virgin Islands

NPP Data. Above-ground biomass and ANPP estimates for the Cinnamon Bay site are provided in one file (Table 1). The data set is an ASCII file (.txt format). The variable values are delimited by semi-colons. The first 18 lines are metadata; data records begin on line 19. The values -999.9 is used to denote missing values. Above-ground biomass and ANPP estimates are based on plant dry matter accumulation, expressed as g/m^2 and g/m^2/yr (dry matter weight), respectively.

Table 2. Column headings in NPP file

COLUMN HEADINGS	DEFINITION	UNITS
Site	Site where data were gathered (code refers to site identification)	Text
Treatmt	Study area or forest subsystem type where measurements were made; treatment and long term management of site are described in metadata in data file	
Year	Year in which data were collected	Numeric
Month	Month in which data were collected	
Day	Day on which data were collected	
parameter	Parameters measured (see definitions in Table 3)	Text
amount	Data values	Numeric
units	Unit of measure	Text

Table 3. Parameter definitions in NPP file

PARAMETER	DEFINITION	UNITS	SOURCE
AGbiomass	Total above-ground biomass (biomass of survivors of the original stems tallied in 1983 to the indicated year plus biomass of cumulative ingrowth for the year indicated)	g/m^2	Table 6[1]
leaflitter	Standing crop of leaf litter (36% of total loose litter)	g/m^2	Based on proportion of total litter reported in Table 4[2] and p. 20[1]
woodlitter	Standing crop of woody litter (55% of total loose litter)		
frtflolitter	Standing crop of fruit and flower litter (4.5% of total loose litter)		
otherlitter	Standing crop of miscellaneous litter materials (4.5% of total loose litter)		
Totlitter	Average total standing crop of loose litter on forest floor	g/m^2	Table 4[2]
Totlittfall	Mean monthly estimates of total litterfall (estimated from graphs)	g/m^2/month	Figures 3 & 4[2]
leaflittfall	Annual leaf litterfall	g/m^2/year	Table 4[2]
woodlittfall	Annual woody litterfall		
frtflolittfall	Annual fruit and flower litterfall		
otherlittfall	Annual litterfall of miscellaneous material		
Totlittfall	Annual total litterfall		
tree_incr	Rate of biomass change due to delayed mortality	g/m^2/year	Table 4[2]
herbivory	Estimated herbivory rate	g/m^2/year	Table 4[2]
ANPP	Above-ground net primary production determined as total annual litterfall + herbivory rate + rate of biomass change.	g/m^2/year	Table 4[2] and p. 21[1]

Notes: [1]Weaver (2006). [2]Weaver (1996).

Sample NPP Data Record

```
Site; Treatmt; Year; Month; Day; parameter; amount; units

cnn ; none; 1983; 6; -999.9; AGbiomass; 13870; g/m2
cnn ; none; 1988; 6; -999.9; AGbiomass; 15080; g/m2
cnn ; none; 1993; 7; -999.9; AGbiomass; 14360; g/m2 ...
```

Climate Data. Climate data are provided in two ASCII files (.txt format), one file for precipitation amount measured at Cruz Bay (5 km east of the study site) from 1961/01/01 through 1983/12/31 and the other for average temperature, maximum/minimum temperature, and precipitation amount measured at Charlotte Amalie, St. Thomas, U.S. Virgin Islands from 1917/07/01 through 1981/12/31. The first 18 lines in each file are metadata; data records begin on line 19. The variable values are delimited by semi-colons. The value -999.9 is used to denote missing values.

Sample Climate Data Record <cnn1_cli.txt>

```
Site;Temp;Parm; Jan; Feb; Mar; Apr; May; Jun; Jul; Aug; Sep; Oct; Nov; Dec; Year

cnn ;mean;prec; 67.6; 50.1; 58.3; 82.2; 126.6; 73.8; 94.4; 121.3; 145.7; 138.6; 130.9; 97.3; 1186.8
cnn ;numb;prec; 23; 23; 23; 23; 23; 23; 23; 23; 23; 23; 23; 23; 23
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cnn ;stdv;prec; 29.4; 24.9; 48.4; 67.7; 109.4; 43.8; 32.7; 47.9; 79.2; 99.5; 77.8; 52.2; 295.7

cnn ;1961;prec; 45.5; 62.7; 61.0; 99.3; 105.4; 37.6; 89.7; 129.5; 52.8; 168.4; 180.1; 113.0; 1145.0
cnn ;1962;prec; 134.6; 44.2; 42.7; 27.7; 155.7; 99.6; 86.4; 134.9; 184.2; 94.2; 18.0; 48.8; 1071.0
cnn ;1963;prec; 77.0; 69.3; 89.4; 80.3; 91.9; 16.3; 118.9; 188.7; 108.0; 51.3; 63.0; 18.0; 972.1 ...

Where,
Temp (temporal) - specific year or long-term statistic:
  mean = mean based on all years
  numb = number of years
  stdv = standard deviation based on all years
Parm (parameter):
  prec = precipitation for month or year (mm)
```

Sample Climate Data Record <cnn2_cli.txt>

```
Site;Temp;Parm; Jan; Feb; Mar; Apr; May; Jun; Jul; Aug; Sep; Oct; Nov; Dec; Year

cha ;mean;prec; 68.2; 49.0; 51.0; 59.2; 105.6; 73.9; 85.1; 111.4; 144.1; 146.8; 132.2; 79.3; 1108.4
cha ;mean;tavg; 25.1; 25 25.3; 25.9; 26.7; 27.6; 27.9; 28.1; 27.9; 27.7; 26.8; 25.8; 26.6
cha ;mean;tmax; 28.1; 28.3; 28.7; 29.3; 29.9; 30.7; 31.1; 31.3; 31.2; 30.7; 29.9; 28.9; 29.8
cha ;mean;tmin; 22.0; 22.1; 22.5; 23.3; 24.2; 25.0; 25.1; 25.1; 25.0; 24.4; 23.9; 23.1; 23.8
cha ;numb;prec; 63; 64; 64; 64; 64; 64; 65; 65; 65; 65; 65; 65; 63
cha ;numb;tavg; 61; 62; 63; 63; 63; 62; 64; 61; 63; 64; 63; 64; 57
cha ;stdv;prec; 42.5; 28.5; 33.5; 39.9; 102.7; 47.4; 46.6; 56.7; 80.4; 81.6; 87.1; 46.1; 273.1
cha ;stdv;tavg; 0.5; 0.4; 0.4; 0.5; 0.5; 0.4; 0.4; 0.4; 0.5; 0.4; 0.4; 0.5; 0.3

cha ;1917;prec; -999.9; -999.9; -999.9; -999.9; -999.9; -999.9; 112.0; 74.0; 70.0; 67.0; 152.0; 90.0; -999.9
cha ;1918;prec; 44.0; 66.0; 32.0; 49.0; 115.0; 117.0; 38.0; 43.0; 106.0; 216.0; 223.0; 39.0; 1088.0
cha ;1919;prec; 59.0; 29.0; 19.0; 163.0; 36.0; 108.0; 192.0; 58.0; 225.0; 110.0; 164.0; 96.0; 1259.0 ...

cha ;1917;tavg; -999.9; -999.9; -999.9; -999.9; -999.9; -999.9; 27.7; 28.0; 28.1; 27.7; 26.9; 25.6; -999.9
cha ;1918;tavg; 25.1; 25.2; 24.9; 25.9; 26.3; 27.5; 27.9; 28.6; 28.4; 27.6; 26.8; 25.8; 26.7
cha ;1919;tavg; 25.3; 25.6; 25.5; 26.0; 27.3; 27.7; 27.7; 28.6; 27.5; 28.0; 26.8; 25.7; 26.8 ...

Where,
Temp (temporal) - specific year or long-term statistic:
  mean = mean based on all years
  numb = number of years
  stdv = standard deviation based on all years
Parm (parameter):
  prec = precipitation for month or year (mm)
  tavg = mean average temperature for month or year (C)
  tmax = mean maximum temperature (C), based upon records from Charlotte Amalie/Truman
    (18.33 N 64.97 W), 1953-1964
  tmin = mean minimum temperature (C), based upon records from Charlotte Amalie/Truman
    (18.33 N 64.97 W), 1953-1964
```

3. Data Application and Derivation:

The accumulation of biomass, or NPP, is the net gain of carbon by photosynthesis that remains after plant respiration. While there are many fates for this carbon, this data set accounts for annual litterfall, herbivory rate, and above-ground biomass change. These are considered the major components of NPP.

The purpose of the study was to provide information on forest structure, species composition, and forest productivity along environmental gradients on St. John, including the effects of hurricanes and droughts. The extent to which the complex patterns observed in the Cinnamon Bay watershed may be extrapolated to other sites or future climatic events on St. John remains as conjecture. First, the study design, although replicated by topography, is confined to the northern slopes of the island. Moreover, since the plots are located along an elevational gradient, each plot provides observations that reflect a single combination of factors. Other watersheds vary in morphology, rainfall, previous agricultural practices, time since agriculture was abandoned, and consequently, forest structure and species composition. Storms and droughts may vary in intensity, duration, or recurrence. In the case of hurricanes, a difference in pre-storm conditions, trajectory, wind velocity, associated tornados, and rainfall could yield varying impacts, even within the same watershed (Weaver, 1998).

The biomass dynamics data for the Cinnamon Bay site are provided for comparison with models and estimation of NPP. Climate data are provided for use in driving ecosystem/NPP models.

4. Quality Assessment:

The above-ground NPP estimate for the Cinnamon Bay watershed (1,064 g/m^2/year) is within the range of values reported for other tropical forests and is somewhat lower than the only other recorded value for Subtropical Moist Forest (1,390 g/m^2/year) (Brown and Lugo, 1982). Cinnamon Bay litterfall and loose litter estimates, in contrast, are in the upper range of reported values for Subtropical Moist Forests elsewhere (Brown and Lugo, 1982). The comparatively high litterfall and loose litter estimates in the Cinnamon Bay watershed appear due to the vegetation's response to past disturbances, in particular Hurricane Hugo. Delayed tree mortality contributed not only additional litterfall to the forest floor but also 142 g/m^2/year of coarse woody debris (or forest biomass) between 1991 and 1993 (Weaver, 1996).

The nearest comparable NPP values geographically for subtropical island forests come from three different life zones along an elevational gradient in the Luquillo Experimental Forest (LEF) of Puerto Rico. The relatively high Cinnamon Bay watershed productivity was determined during the post-Hurricane Hugo recovery period. In contrast, the LEF values come from measurements in closed forests 30 to 50 years after major hurricane impact. See Weaver (2006) for discussion.

Sources of Error

Information not available.

5. Data Acquisition Materials and Methods:

Above-ground Biomass. Sampling in the Cinnamon Bay watershed used 16 permanent plots, each 50 by 10 m, to determine forest structure and dynamics by elevation and topography (Weaver and Chinea-Rivera, 1987). Five groups of three plots (situated on ridge, slope, and valley topography) were established at elevations of 60, 120, 180, 210, and 240 m. Ridge plots were entirely on convex topography and valley plots on concave topography; slope plots were on relatively uniform slopes. The final plot was at 290 m on level terrain near the summit of the watershed. All plots were georeferenced in June 1995.

All trees ≥ 4 cm in diameter at breast height (dbh), 1.4 m above the ground, were identified to species, measured, and tagged. Crown classes indicating the position of the tree in the canopy were also recorded. A lower limit of 4 cm was used because it would provide data on the early survival and growth of tallied trees, many of which were small.

A rangefinder was used to estimate tree heights or lengths if leaning (to the nearest 0.5 m), and a diameter tape measured dbh (to the nearest 0.1 cm). During the initial survey, dbh was marked with paint. Measurements were made during June or July in 1983, 1988, 1993, 1998, and 2003.

Biomass was determined using the relationship:

$$\ln Y = -1.59 + 0.77 \ln X,$$

$$r^2 = 0.94, Sy.X = 0.0345, n = 20 \text{ (Weaver 1994)}$$

where Y = total above-ground biomass in kg, and X = (D^2 x h) where D = tree dbh (cm) and h = tree height (m). Mean dbh growth rates were determined by species for trees that survived the 20-year measurement period.

Litterfall. Twenty-four litterfall baskets each 0.25 m^2 in size were installed within the watershed on February 1, 1992. Three groups of eight baskets each, spaced 2 m apart, were located at 180 m in elevation on the middle group of ridge, slope, and ravine plots within the watershed. Each basket was made of 2 mesh sizes: an inside mesh of 15 × 15 mm to retain fragments and an outside mesh of 1.25 × 1.25 cm to provide support. Collections were made monthly for one year. Litterfall was partitioned into leaves, wood, fruits and flowers, and miscellaneous categories, then dried to a constant weight, and recorded.

Standing Crop of Litter. Loose litter, or unincorporated detritus composed of plant materials, was collected on January 31 and July 31, 1992, using a 0.25 m^2 wood frame. Eighteen collections were made, six each from the same ridge, slope, and ravine plots where litterfall was collected. All materials were partitioned into woody and miscellaneous materials, dried to a constant weight, and recorded.

Herbivory. Standing (or instantaneous) herbivory on 20 leaves of each species was estimated with a leaf area machine. For herbivory rate, 20 fully developed new leaves of each species, without evidence of herbivory, were selected in the field. Each was numbered and tagged with plastic tape stapled across the midrib on the underside of the leaf. After 90 days, the tagged leaves were removed from the trees and the amount of herbivory was determined as with standing herbivory. Species with incomplete samples were re-tagged using subsets of five leaves to compensate for lost specimens. The amount of leaf biomass consumed was estimated as leaf biomass consumed = [leaf litterfall / 1 - proportion of leaf area consumed] - leaf litterfall (Weaver, 1996).

Above-ground Biomass Change. The change in net above-ground biomass was determined as the difference between the standing biomass estimates for 1991 and 1993 divided by 2.25 years.

Climate Data. Climate was monitored at two weather stations: Charlotte Amalie / Harry Truman airport on St. Thomas; and Cruz Bay, 5 km east of the study site.

6. Data Access:

This data set is available through the Oak Ridge National Laboratory (ORNL) Distributed Active Archive Center (DAAC).

Data Archive:

Web Site: http://daac.ornl.gov

Contact for Data Center Access Information:

E-mail: uso@daac.ornl.gov
Telephone: +1 (865) 241-3952

7. References:

Olson, R. J., K.R. Johnson, D.L. Zheng, and J.M.O. Scurlock. 2001. Global and Regional Ecosystem Modeling: Databases of Model Drivers and Validation Measurements. ORNL Technical Memorandum TM-2001/196. Oak Ridge National Laboratory, Oak Ridge, Tennessee, U.S.A.

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Additional Sources of Information:

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8. Data Set Revisions:

8. Revision Summary:

Above-ground biomass (AGbiomass) values in the data file, **cnn_npp.txt**, have been replaced with those reported in Table 6 on Page 17 of Weaver (2006). These values supercede those reported in Weaver (1996) and reflect the addition of more recent measurements of above-ground biomass. The temporal coverage of the NPP file has been extended to reflect the addition of the new AGbiomass data (i.e., 1983-2003). The geographic location of the study site (latitude and longitude) has been revised to agree with Scurlock and Olson (2012).

All other NPP values in the data file are correct.

Data File Changes:

Several AGbiomass data values, temporal coverage, and geographic location of study sites have been corrected by replacing them with values in the sources described above. The data values in **cnn_npp_r1.txt** are now correct.

Parameter in Data Set *	Uncorrected in cnn_npp.txt	Corrected in cnn_npp_r1.txt
Temporal Coverage (years)	1982-1993	1983-2003
AGbiomass (1983) (g/m^2)	13,940	13,870
AGbiomass (1988) (g/m^2)	15,040	15,080
AGbiomass (1991) (g/m^2)	13,470	**
2		

AGbiomass (1993) (g/m)	13,150	14,360
AGbiomass (1998) (g/m^2)	***	12,250
AGbiomass (2003) (g/m^2)	***	12,720
Latitude and Longitude (decimal degrees)	18.30 N -65.75 W	18.33 N -64.80 W

Notes:
* = See data set Guide document for parameter definitions.
** = Not reported in Weaver (2006).
*** = Not reported in Weaver (1996).

Data User Action: If you downloaded this data set from the ORNL DAAC on-line archvie before September 6, 2013, you should download it again from ORNL DAAC.

Revision History

Original Citation

Weaver, P. L. 1999. NPP Tropical Forest: Cinnamon Bay, U.S. Virgin Islands, 1982-1993. Data set. Available on-line [http://daac.ornl.gov] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, U.S.A.