Luquillo Experimental Forest Metadata Report (LUQ)

near San Juan, Puerto Rico

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Research Area Information

Luquillo Experimental Forest ..... LUQ

Luquillo Experimental Forest

Research Area Information

Harvest URL - Option 1

http://luq.lternet.edu/datamng/nis/luqclimdb.txt

Harvest URL -Option 2

http://luq.lternet.edu/datamng/nis/prietahy.txt

Site URL

http://luq.lternet.edu/

Site Climate URL

http://luq.lternet.edu/research/projects/climate_hydrology_description.html

Site Watershed URL

http://luq.lternet.edu/research/projects/climate_hydrology_description.html

Site Map URL

http://www.ites.upr.edu/~thomlins/spatialdata/lef.htm

Publications

(1) William H. McDowell and Alejo Estrada-Pinto.1988. Rainfall at El Verde Station, 1964-1986. Center for Energy and Environmenta Research (CEER), Technical Report No. CEER T-228. Precipitation data - http://luq.lternet.edu/data/lterdb14/metadata/lterdb14.htm Max Temperature - http://luq.lternet.edu/data/lterdb16/metadata/lterdb16.htm Min Temperature - http://luq.lternet.edu/data/lterdb17/metadata/lterdb17.htm El Verde Met Datalogger data (EVFSTower) - http://luq.lternet.edu/data/lterdb127/metadata/lterdb127.html

USGS Harvest URL

http://gce-lter.marsci.uga.edu/harvest/usgs/luq_lter.txt

Meteorlogical Stations

Bisley Tower

Global Radiation

Begin Date..... 2/11/1993
End Date..... Present
Data Logger Sampling Interval..... 24 hours
Summary Interval ..... 15 minutes
Data Accuracy (MJM2) ..... +/-.1
Instrumentation Description

Campbell Scientific, Inc. 1989, PC208 Datalogger

Minimum QC Threshold (megajoules per square meter per day) 1
Maximum QC Threshold (megajoules per square meter per day) 1600

Precipitation

Begin Date..... 02/11/ 1993
End Date..... Present
Data Logger Sampling Interval..... 24 hours
Summary Interval ..... daily
Data Accuracy (millimeters) ..... +/-.01 mm
Instrument Height (meters) 310
Instrumentation Description

Campbell Scientific PC208 Datalogger

Methods Description

Rate of liquid water precipitation, measured by a tipping bucket gauge. Summing the recorded values over a time period gives total rain. Values divided by the length of the recording interval gives the rainfall intensity (i.e., mm/hr).

Maximum QC Threshold (millimeters) 400

Wind Direction and Resultant Wind Direction

Begin Date..... 19930211
End Date..... Present
Data Logger Sampling Interval..... 24 hours
Data Accuracy (degrees azimuth) ..... +/-.01
Minimum QC Threshold (degrees azimuth) 0.00

Maximum QC Threshold (degrees azimuth) 1600

El Verde Log

Air Temperature

Begin Date..... Jan 1, 1975
End Date..... Present
Summary Interval ..... daily
Data Accuracy (degree celsius) .....+/-0.1 degrees C
Instrument Height (meters) .....350 m

Precipitation

Begin Date..... January 1, 1975
End Date..... Present
Summary Interval ..... daily
Data Accuracy (millimeters) ..... +/- .1 mm
Instrument Height (meters) .....350 m
Instrumentation Description

a standard 8-inch diameter US Weather Service funnel

Sensor History

Location of funnel have changed as follows: 1974 - Dec 1980 : located on the roof of the field station laboratory (approximately 3 m above ground level). Jan 1981 - location changed to a tower approximately 13 m above ground level. March 1983 - location of tower moved to an adjacent location of the dormitory building and extended to approximately 20 m ground surface. At present funnel is located on the roof of the station.

Maximum QC Threshold (millimeters) 510

El Verde Tower

Meteorological Station

Latitude (decimal degrees) ..... 18° 19" 22" N
Longitude (decimal degrees) ..... 65° 49" 13" W
Elevation (meters; a.m.s.l.) ..... 370 m amsl.

Begin Date..... April 26, 2000

End Date..... present

Topography

On a tower that is located at a mountain range

Surface

research tower

Area Description

Meteorological sensors are located at the top of a 20 m tower, the NADP Tower, behind the main buildings of El Verde Field Station, 350 amsl. No large trees are present near the tower.

History

Meteorological variables are measured continuously at El Verde Field Station by placing all instrumentation in a 20 m tower located behind the station"s buildings. The name "NADP Tower" refers to the original purpose of the tower, which was built for the National Atmospheric Deposition Program. The program started in 1999, and it was designed to replace the roof station at El Verde to obtain meteorological data more representative of the area. Variables are: solar radiation, temperature, rainfall, humidity, wind speed and direction, and maintenance variables such battery voltage in the data logger and temperature inside the data logger box.

Air Temperature

Begin Date..... 20000426

End Date..... present

Data Logger Sampling Interval..... 1 second

Summary Interval ..... daily

Data Accuracy (degree celsius) ..... +/-0.01

Instrument Height (meters) 370m

Instrumentation Description

Sensors are connected to a Campbell 10X data logger, with a storage module.

Methods Description

Sensors are downloaded every two weeks using a wireless radio connection from the laboratory to the tower. The data is compiled at the station and send to ITES once a month.

Sensor History

Meteorological sensors are located at the top of a 20 m tower, the NADP Tower, behind the main buildings of El Verde Field Station, 350 masl. No large trees are present near the tower. The station was initiated in 1999.

Minimum QC Threshold (degree celsius) .....-50

Maximum QC Threshold (degree celsius) 50

Global Radiation

Begin Date 20000426
End Date ..... Present
Data Logger Sampling Interval ..... 1 second
Summary Interval ..... daily
Data Accuracy (MJM2) .....+/-0.01 MJM2
Instrument Height (meters) .....370 m
Instrumentation Description

Sensors are connected to a Campbell 10X data logger, with a storage module

Methods Description

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Precipitation

Begin Date 20000426
End Date ..... Present
Data Logger Sampling Interval ..... 1 second
Summary Interval ..... daily
Data Accuracy (millimeters) ..... +/-.01 mm
Instrument Height (meters) .....370 m
Instrumentation Description

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Maximum QC Threshold (millimeters) 400

Relative Humidity

Begin Date..... 20000426
End Date..... Present
Data Logger Sampling Interval..... 1 second
Summary Interval ..... daily
Data Accuracy (percent) ..... +/-.01 %
Instrument Height (meters) .....370 m
Instrumentation Description

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Maximum QC Threshold (percent) 100

Wind Direction and Resultant Wind Direction

Begin Date..... 20000426
End Date..... Present
Data Logger Sampling Interval..... 1 second
Summary Interval ..... daily
Data Accuracy (degrees azimuth) ..... +/-.01 degrees
Instrument Height (meters) .....370 m
Instrumentation Description

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Methods Description

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Wind Speed and Resultant Wind Speed

Begin Date..... 20000426
End Date..... Present
Data Logger Sampling Interval..... 1 second
Summary Interval ..... daily
Data Accuracy (meters per second) .....+/-0.01 msec
Instrument Height (meters) .....370 m

Instrumentation Description

Sensors are connected to a Campbell 10X data logger, with a storage module.

Methods Description

Sensors are downloaded every two weeks using a wireless radio connection from the laboratory to the tower. The data is compiled at the station and send to ITES once a month.

Sensor History

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Watershed

Gauging Stations

RIO ESPIRITU SANTO (USGS)

Stream Discharge

Maximum QC Threshold (liters per second) 67500

QUEBRADA SONADORA (USGS)

Hydrologic Gauging Station

RIO GRANDE (USGS)

Stream Discharge

Maximum QC Threshold (liters per second) 40776

RIO MAMEYES NR SABANA (USGS)

Stream Discharge

Maximum QC Threshold (liters per second) 60598

RIO MAMEYES AT MAMEYES (USGS)

Stream Discharge

Maximum QC Threshold (liters per second) 75325