TITLE

CAMP_Korean-Peninsula_DK_20021001_20030331.twr

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DATE OF THIS DOCUMENT

17 Sep. 2004
Updated 29 Jan. 2005

1. 0 DATASET OVERVIEW

1.1 Introduction

The objectives of CAMP Korean-Peninsula DK site as a part of KoFLUX are (1) to understand the mechanisms controlling the exchange of CO_2, water vapor and energy between the atmosphere and broadleaf deciduous forest and (2) to provide ground information for validating estimates of net primary productivity, evapotranspiration, and energy absorption that are being generated by various biosphere models and sensors on the satellite.

1.2 Time period covered by the data

Start: 1 October 2002, 00:00
End: 31 March 2003, 23:00

1.3 Temporal characteristics of the data

All parameters are recoded every 30 minutes.

1.4 Physical location of the measurement

Latitude	: 37.74870 N
Longitude	: 127.14816 E
Elevation	: 330 m a.s.l.
Landscape	: Quercus serrata (Broadleaf deciduous forest). The fetch is 2 km (90 ± 45degree)
Canopy height	: 18 to 20 m

Soil Characteristics: loam or sandy loam

1.5 Data source

1.6 WWW address references

www.koflux.org

2.0 INSTRUMENTATION DESCRIPTION

2.1 Platform

The sensors are mounted on several heights.

2.2 Description of the instrumentation

Parameter	Model	Manufacturer
Station Pressure	CS7500	CAMPBELL
Air Temperature	HMP45C	CAMPBELL
Relative Humidity	HMP45C	CAMPBELL
Wind Speed	Cup anemometer & CSAT3	CAMPBELL
Wind Direction	Cup anemometer & CSAT3	CAMPBELL

2.3 Instrumentation specification

Station Pressure (30m) : Station Pressure at the 30 m height (hPa)
Air Temperature (29m) : Air Temperature at the 29 m height (deg.C)
Air Temperature (19m) : Air Temperature at the 19 m height (deg.C)
Air Temperature (14m) : Air Temperature at the 14 m height (deg.C)
Air Temperature (9m) : Air Temperature at the 9 m height (deg.C)
Air Temperature (4m) : Air Temperature at the 4 m height (deg.C)
Air Temperature (0.3m) : Air Temperature at the 0.3 m height (deg.C)
Relative Humidity (29m) : Relative Humidity at the 29 m height (%)
Relative Humidity (19m) : Relative Humidity at the 19 m height (%)
Relative Humidity (14m) : Relative Humidity at the 14 m height (%)
Relative Humidity (9m) : Relative Humidity at the 9 m height (%)
Relative Humidity (4m) : Relative Humidity at the 4 m height (%)
Relative Humidity (0.3m) : Relative Humidity at the 0.3 m height (%)
Wind Speed (30m) : Wind speed at the 30 m height (m/s)
Wind Speed (19m) : Wind speed at the 19 m height (m/s)
Wind Speed (13m) : Wind speed at the 13 m height (m/s)
Wind Speed (9m) : Wind speed at the 9 m height (m/s)
Wind Speed (4m) : Wind speed at the 4 m height (m/s)
Wind Speed (31m) : Horizontal Wind speed at the 31 m height (m/s)
U Wind Component (31m) : U Wind component velocity average at the 31m height (m/s)
V Wind Component (31m) : V Wind component velocity average at the 31m height (m/s)
Wind Direction (31m) : Wind direction at the 31 m height (deg.)

3.0 DATA COLLECTION AND PROCESSING

3.1 Description of data collection

Data are downloaded from the Tower twice a month. Then, data are sent to Seoul.

3.2 Description of derived parameters and processing techniques used

Station Pressure, Air Temperature, Relative Humidity, U wind component, V wind component, Wind speed and Wind direction, are averaged over the previous 30 minutes.

4.0 QUALITY CONTROL PROCEDURES

For all parameters, the data has been visually checked, looking for extremely and unusual low/high values and/or periods with constant values thorough the CAMP Quality Control Web Interface.
The quality control flags follow the CEOP data flag definition document.

5.0 GAP FILLING PROCEDURES

No gap filling procedure was applied.

6.0 DATA REMARKS

6.1 PI's assessment of the data

6.1.1 Instruments problems

None.

6.1.2 Quality issues

There were large number of the wind speeds at the 30 m height are flagged B.
The reason for this is that the Cup anemometer often malfunctioned. When wind speed from the cup anemometer 0.3 m/s smaller than that from sonic anemometer at 31 m, the wind speeds at the 30 m height are flagged B.

Also, there were large number of the wind speeds at the 4, 9, 13, and 19 m heights are flagged D. The reason for this is that the height of 19m is just above the canopy height. Mean wind speed just above the canopy is known to be greater than wind speed within canopy. Therefore, when mean wind speed is smaller than either of wind speeds at 4, 9, and 13 m, all wind speed are flagged D.

6.2 Missing data periods

None

7.0 REFERENCE REQUIREMENTS

Original data was collected and is provided by the Ministry of Environment of Korea through “The Eco-Technopia 21 Project” under the framework of Coordinated Enhanced Observation Period (CEOP) Asian Monsoon Project (CAMP).

8.0 REFERENCES

Kim, J., W. Kim, C. Cho, B. Choi, H. Chung, B. Lee, K. Kim, K. Kim, M. Kim, B. Lee, D. Lee, G. Lee, J. Lee, J. Lim, J. Oh, E. Park, J. Shim, J. Yun, C. Rho, 2002, KOFLUX: A new tool to study the biosphere-atmosphere interactions in Asia, in *Ecology of Korea* edited by D. Lee, 215-229.