

## TITLE

CAMP\_Korean-Peninsula\_DK\_20021001\_20030331.stm

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## 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<sub>2</sub>, 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 recorded 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
Soil Temperature	TCAV	CAMPBELL
Soil Moisture	CS615	CAMPBELL

### 2.3 Instrumentation specification

Soil Temp\_5cm: Soil Temperature from 0 to 10 cm depth (deg.C)

Soil Moist\_5cm : Soil Moisture from 0 to 10 cm depth (%)

Soil Moist\_15cm : Soil Moisture from 10 to 30 cm depth (%)

Soil Moist\_45cm : Soil Moisture from 30 to 60 cm depth (%)

## 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

**Soil temperature** is measured using a TCAV resistance thermometer. There are two Soil Temperature sensors at the 5 cm depth. This time we apply the average method of these two data to get the representative value at 5 cm.

**Soil moisture is** measured using a CS615 sensor by using time-domain reflectometry methods. The principle of the TDR is based on measuring the transmitted time of an electromagnetic pulse along measuring pins in the sample. The transmitted time depends on the humidity content of the medium to be measured.

## 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

The soil moisture at the 5 cm depth is flagged entirely D. The reason for this is that there are some macroflow of water through rocky soil and also surface runoff from time to time through specific paths and that's why we see some unexpected patterns of soil moisture profile at this location. In conclusion, these data are okay but not quite representative for the forest floor in general. This is because the site has a complex landscape which is typical for Korea. The way to use these data will depend on the purpose and should be used with caution.

#### 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.