

TITLE

CAMP_ChaoPhrayaRiver_Lampang_20021001_20030331.stm

CONTACT

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DATE OF THIS DOCUMENT

31 Aug. 2004
Updated 29 May 2006

1. 0 DATASET OVERVIEW

1.1 Introduction

To clarify the energy and water cycle in the Thailand, it is important to understand the characteristics of the basic meteorological elements.

The purpose of Lampang PBL-Tower (Planetary Boundary Layer -Tower) observation is to monitor these meteorological values and analysis the mechanisms of the energy and water cycle in the Teak Forest in tropical Monsoon areas.

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 hour.

1.4 Physical location of the measurement

Latitude : 18.40 N
Longitude : 99.47 E
Elevation : 241.0m a.s.l.
Landscape : Deciduous Tropical Monsoon Forest (38 year old Teak plantation)
Canopy height : About 17 m
Soil Characteristics: Sandy soil

1.5 Data source

1.6 WWW address references

None

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	TS-301(Pt100)	Okazaki
Soil moisture	TRIME-EZ	IMKO

2.3 Instrumentation specification

Soil Temp_1cm: Soil Temperature at the 1cm depth (deg.C)
Soil Temp_5cm: Soil Temperature at the 5cm depth (deg.C)
Soil Temp_15cm : Soil Temperature at the 15cm depth (deg.C)
Soil Temp_30cm : Soil Temperature at the 30m depth (deg.C)
Soil Temp_50cm : Soil Temperature at the 50cm depth (deg.C)
Soil Temp_200cm : Soil Temperature at the 200cm depth (deg.C)
Soil Moist_50cm : Soil Moisture at the 50cm depth (%)
Soil Moist_200cm : Soil Moisture at the 200cm depth (%)

3.0 DATA COLLECTION AND PROCESSING

3.1 Description of data collection

Observed Data are sent to the data manager everyday using E-mail tele-communication system established by Tokyo University of Agriculture and Technology.

3.2 Description of derived parameters and processing techniques used

Soil temperature is measured using a Pt100 resistance thermometer.

Soil moisture is measured using a TDR sensor. 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.

3.3 Data Format Description

http://www.joss.ucar.edu/ghp/ceopdm/refdata_report/ceop_soils_format.html

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

(Note: Old first-half Soil moisture at 200cm depth data were flagged "D". But these data are reasonable then we replaced these data flags into "G".)

7.0 REFERENCE REQUIREMENTS

Original data was collected and is provided by the Coordinated Enhanced Observation Period (CEOP) Asian Monsoon Project (CAMP) supported by Japan Science and Technology Agency (JST).

8.0 REFERENCES

None

9.0 Missing Data Periods

File Name : CAMP_ChaoPhrayaRiver_Lampang_20021001_20030331.stm
Data Period : 2002/10/01 00:00 - 2003/03/31 23:00

Soil Temperature (-2.00m)
No missing data.

Soil Temperature (-0.50m)
No missing data.

Soil Temperature (-0.30m)
No missing data.

Soil Temperature (-0.15m)
No missing data.

Soil Temperature (-0.05m)
No missing data.

Soil Temperature (-0.01m)
No missing data.

Soil Moisture (-2.00m)
No missing data.

Soil Moisture (-0.50m)
No missing data.

Soil Moisture (-0.30m)
2002/10/01 00:00 - 2003/03/31 23:00 (ALL)

Soil Moisture (-0.15m)
2002/10/01 00:00 - 2003/03/31 23:00 (ALL)

Soil Moisture (-0.05m)
2002/10/01 00:00 - 2003/03/31 23:00 (ALL)

Soil Moisture (-0.01m)
2002/10/01 00:00 - 2003/03/31 23:00 (ALL)

TITLE

CAMP_ChaoPhrayaRiver_Lampang_20030401_20030930.stm

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1. 0 DATASET OVERVIEW

1.7 Introduction

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The purpose of Lampang PBL-Tower (Planetary Boundary Layer -Tower) observation is to monitor these meteorological values and analysis the mechanisms of the energy and water cycle in the Teak Forest in tropical Monsoon areas.

1.8 Time period covered by the data

Start: 1 April 2003, 00:00
End: 30 September 2003, 23:00

1.9 Temporal characteristics of the data

All parameters are recoded every hour.

1.10 Physical location of the measurement

Latitude : 18.40 N
Longitude : 99.47 E
Elevation : 241.0m a.s.l.
Landscape : Deciduous Tropical Monsoon Forest (38 year old Teak plantation)
Canopy height : About 17 m
Soil Characteristics: Sandy soil

1.11 Data source

1.12 WWW address references

None

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	TS-301(Pt100)	Okazaki
Soil moisture	TRIME-EZ	IMKO

2.4 Instrumentation specification

Soil Temp_1cm: Soil Temperature at the 1cm depth (deg.C)
Soil Temp_5cm: Soil Temperature at the 5cm depth (deg.C)
Soil Temp_15cm : Soil Temperature at the 15cm depth (deg.C)
Soil Temp_30cm : Soil Temperature at the 30m depth (deg.C)
Soil Temp_50cm : Soil Temperature at the 50cm depth (deg.C)
Soil Temp_200cm : Soil Temperature at the 200cm depth (deg.C)
Soil Moist_50cm : Soil Moisture at the 50cm depth (%)
Soil Moist_200cm : Soil Moisture at the 200cm depth (%)

3.0 DATA COLLECTION AND PROCESSING

3.1 Description of data collection

Observed Data are sent to the data manager everyday using E-mail tele-communication system established by Tokyo University of Agriculture and Technology.

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Soil moisture is measured using a TDR sensor. 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

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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

7.0 REFERENCE REQUIREMENTS

Original data was collected and is provided by the Coordinated Enhanced Observation Period (CEOP) Asian Monsoon Project (CAMP) supported by Japan Science and Technology Agency (JST).

8.0 REFERENCES

None

9.0 Missing Data Periods

File Name : CAMP_ChaoPhrayaRiver_Lampang_20030401_20030930.stm
Data Period : 2003/04/01 00:00 - 2003/09/30 23:00

Soil Temperature (-2.00m)
2003/04/29 01:00 - 2003/08/09 17:00 (2465)
2003/08/19 17:00 - 2003/09/03 16:00 (360)

Soil Temperature (-0.50m)
2003/04/29 01:00 - 2003/08/09 17:00 (2465)
2003/08/19 17:00 - 2003/09/03 16:00 (360)

Soil Temperature (-0.30m)
2003/04/29 01:00 - 2003/08/09 17:00 (2465)
2003/08/19 17:00 - 2003/09/03 16:00 (360)

Soil Temperature (-0.15m)
2003/04/29 01:00 - 2003/08/09 17:00 (2465)
2003/08/19 17:00 - 2003/09/03 16:00 (360)

Soil Temperature (-0.05m)
2003/04/29 01:00 - 2003/08/09 17:00 (2465)
2003/08/19 17:00 - 2003/09/03 16:00 (360)

Soil Temperature (-0.01m)
2003/04/29 01:00 - 2003/08/09 17:00 (2465)
2003/08/19 17:00 - 2003/09/03 16:00 (360)

Soil Moisture (-2.00m)
2003/04/29 01:00 - 2003/08/09 17:00 (2465)
2003/08/19 17:00 - 2003/09/03 16:00 (360)

Soil Moisture (-0.50m)
2003/04/29 01:00 - 2003/08/09 17:00 (2465)
2003/08/19 17:00 - 2003/09/03 16:00 (360)

Soil Moisture (-0.30m)
2003/04/01 00:00 - 2003/09/30 23:00 (ALL)

Soil Moisture (-0.15m)
2003/04/01 00:00 - 2003/09/30 23:00 (ALL)

Soil Moisture (-0.05m)
2003/04/01 00:00 - 2003/09/30 23:00 (ALL)

Soil Moisture (-0.01m)
2003/04/01 00:00 - 2003/09/30 23:00 (ALL)

TITLE

CAMP_ChaoPhrayaRiver_Lampang_20031001_20041231.stm

CONTACT

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29 Nov 2006

1. 0 DATASET OVERVIEW

1.13 Introduction

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1.14 Time period covered by the data

Start: 1 October 2003, 00:00
End: 31 December 2004, 23:00

1.15 Temporal characteristics of the data

All parameters are recoded every hour.

1.16 Physical location of the measurement

Latitude : 18.40 N
Longitude : 99.47 E
Elevation : 241.0m a.s.l.
Landscape : Deciduous Tropical Monsoon Forest (38 year old Teak plantation)
Canopy height : About 17 m
Soil Characteristics: Sandy soil

1.17 Data source

1.18 WWW address references

None

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Soil Temp_30cm : Soil Temperature at the 30m depth (deg.C)
Soil Temp_50cm : Soil Temperature at the 50cm depth (deg.C)
Soil Temp_200cm : Soil Temperature at the 200cm depth (deg.C)
Soil Moist_50cm : Soil Moisture at the 50cm depth (%)
Soil Moist_200cm : Soil Moisture at the 200cm depth (%)

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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

7.0 REFERENCE REQUIREMENTS

Original data was collected and is provided by the Coordinated Enhanced Observation Period (CEOP) Asian Monsoon Project (CAMP) supported by Japan Science and Technology Agency (JST).

8.0 REFERENCES

None

9.0 Missing Data Periods

File Name : CAMP_ChaoPhrayaRiver_Lampang_20031001_20041231.stm
Data Period : 2003/10/01 00:00 - 2004/12/31 23:00

Soil Temperature (-2.00m)

2003/10/03 17:00 - 2003/10/04 16:00 (24)
2003/10/24 10:00 - 2003/11/20 16:00 (655)
2003/12/14 17:00 - 2003/12/15 16:00 (24)
2003/12/22 13:00 - 2003/12/24 00:00 (36)
2003/12/31 02:00 - 2003/12/31 16:00 (15)
2004/01/01 08:00
2004/01/18 19:00 - 2004/01/21 09:00 (63)
2004/01/24 17:00 - 2004/01/27 10:00 (66)
2004/04/19 01:00 - 2004/06/30 10:00 (1738)
2004/07/20 10:00 - 2004/07/21 02:00 (17)
2004/07/24 09:00 - 2004/07/28 00:00 (88)
2004/08/15 01:00 - 2004/08/16 07:00 (31)
2004/08/20 01:00 - 2004/08/22 00:00 (48)
2004/08/30 03:00 - 2004/08/31 00:00 (22)

2004/09/02 01:00 - 2004/09/03 00:00 (24)
2004/09/26 10:00 - 2004/09/28 09:00 (48)
2004/10/05 01:00 - 2004/10/06 09:00 (33)
2004/10/24 10:00 - 2004/10/26 09:00 (48)
2004/11/02 01:00 - 2004/11/03 09:00 (33)
2004/11/06 10:00 - 2004/11/12 09:00 (144)
2004/11/13 23:00 - 2004/11/14 01:00 (3)
2004/11/14 18:00 - 2004/11/15 01:00 (8)
2004/11/15 21:00 - 2004/11/16 02:00 (6)
2004/11/20 10:00 - 2004/11/27 09:00 (168)
2004/12/05 02:00 - 2004/12/08 09:00 (80)
2004/12/25 23:00 - 2004/12/26 09:00 (11)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Temperature (-0.50m)

2003/10/03 17:00 - 2003/10/04 16:00 (24)
2003/10/24 10:00 - 2003/11/20 16:00 (655)
2003/12/14 17:00 - 2003/12/15 16:00 (24)
2003/12/22 13:00 - 2003/12/24 00:00 (36)
2003/12/31 02:00 - 2003/12/31 16:00 (15)
2004/01/01 08:00
2004/01/18 19:00 - 2004/01/21 09:00 (63)
2004/01/24 17:00 - 2004/01/27 10:00 (66)
2004/04/19 01:00 - 2004/06/30 10:00 (1738)
2004/07/20 10:00 - 2004/07/21 02:00 (17)
2004/07/24 09:00 - 2004/07/28 00:00 (88)
2004/08/15 01:00 - 2004/08/16 07:00 (31)
2004/08/20 01:00 - 2004/08/22 00:00 (48)
2004/08/30 03:00 - 2004/08/31 00:00 (22)
2004/09/02 01:00 - 2004/09/03 00:00 (24)
2004/09/26 10:00 - 2004/09/28 09:00 (48)
2004/10/05 01:00 - 2004/10/06 09:00 (33)
2004/10/24 10:00 - 2004/10/26 09:00 (48)
2004/11/02 01:00 - 2004/11/03 09:00 (33)
2004/11/06 10:00 - 2004/11/12 09:00 (144)
2004/11/13 23:00 - 2004/11/14 01:00 (3)
2004/11/14 18:00 - 2004/11/15 01:00 (8)
2004/11/15 21:00 - 2004/11/16 02:00 (6)
2004/11/20 10:00 - 2004/11/27 09:00 (168)
2004/12/05 02:00 - 2004/12/08 09:00 (80)
2004/12/25 23:00 - 2004/12/26 09:00 (11)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Temperature (-0.30m)

2003/10/03 17:00 - 2003/10/04 16:00 (24)
2003/10/24 10:00 - 2003/11/20 16:00 (655)
2003/12/14 17:00 - 2003/12/15 16:00 (24)
2003/12/22 13:00 - 2003/12/24 00:00 (36)
2003/12/31 02:00 - 2003/12/31 16:00 (15)
2004/01/01 08:00
2004/01/18 19:00 - 2004/01/21 09:00 (63)

2004/01/24 17:00 - 2004/01/27 10:00 (66)
2004/04/19 01:00 - 2004/06/30 10:00 (1738)
2004/07/20 10:00 - 2004/07/21 02:00 (17)
2004/07/24 09:00 - 2004/07/28 00:00 (88)
2004/08/15 01:00 - 2004/08/16 07:00 (31)
2004/08/20 01:00 - 2004/08/22 00:00 (48)
2004/08/30 03:00 - 2004/08/31 00:00 (22)
2004/09/02 01:00 - 2004/09/03 00:00 (24)
2004/09/26 10:00 - 2004/09/28 09:00 (48)
2004/10/05 01:00 - 2004/10/06 09:00 (33)
2004/10/24 10:00 - 2004/10/26 09:00 (48)
2004/11/02 01:00 - 2004/11/03 09:00 (33)
2004/11/06 10:00 - 2004/11/12 09:00 (144)
2004/11/13 23:00 - 2004/11/14 01:00 (3)
2004/11/14 18:00 - 2004/11/15 01:00 (8)
2004/11/15 21:00 - 2004/11/16 02:00 (6)
2004/11/20 10:00 - 2004/11/27 09:00 (168)
2004/12/05 02:00 - 2004/12/08 09:00 (80)
2004/12/25 23:00 - 2004/12/26 09:00 (11)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Temperature (-0.15m)

2003/10/03 17:00 - 2003/10/04 16:00 (24)
2003/10/24 10:00 - 2003/11/20 16:00 (655)
2003/12/14 17:00 - 2003/12/15 16:00 (24)
2003/12/22 13:00 - 2003/12/24 00:00 (36)
2003/12/31 02:00 - 2003/12/31 16:00 (15)
2004/01/01 08:00
2004/01/18 19:00 - 2004/01/21 09:00 (63)
2004/01/24 17:00 - 2004/01/27 10:00 (66)
2004/04/19 01:00 - 2004/06/30 10:00 (1738)
2004/07/20 10:00 - 2004/07/21 02:00 (17)
2004/07/24 09:00 - 2004/07/28 00:00 (88)
2004/08/15 01:00 - 2004/08/16 07:00 (31)
2004/08/20 01:00 - 2004/08/22 00:00 (48)
2004/08/30 03:00 - 2004/08/31 00:00 (22)
2004/09/02 01:00 - 2004/09/03 00:00 (24)
2004/09/26 10:00 - 2004/09/28 09:00 (48)
2004/10/05 01:00 - 2004/10/06 09:00 (33)
2004/10/24 10:00 - 2004/10/26 09:00 (48)
2004/11/02 01:00 - 2004/11/03 09:00 (33)
2004/11/06 10:00 - 2004/11/12 09:00 (144)
2004/11/13 23:00 - 2004/11/14 01:00 (3)
2004/11/14 18:00 - 2004/11/15 01:00 (8)
2004/11/15 21:00 - 2004/11/16 02:00 (6)
2004/11/20 10:00 - 2004/11/27 09:00 (168)
2004/12/05 02:00 - 2004/12/08 09:00 (80)
2004/12/25 23:00 - 2004/12/26 09:00 (11)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Temperature (-0.05m)

2003/10/03 17:00 - 2003/10/04 16:00 (24)
2003/10/24 10:00 - 2003/11/20 16:00 (655)
2003/12/14 17:00 - 2003/12/15 16:00 (24)
2003/12/22 13:00 - 2003/12/24 00:00 (36)
2003/12/31 02:00 - 2003/12/31 16:00 (15)
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2004/08/20 01:00 - 2004/08/22 00:00 (48)
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2004/11/06 10:00 - 2004/11/12 09:00 (144)
2004/11/13 23:00 - 2004/11/14 01:00 (3)
2004/11/14 18:00 - 2004/11/15 01:00 (8)
2004/11/15 21:00 - 2004/11/16 02:00 (6)
2004/11/20 10:00 - 2004/11/27 09:00 (168)
2004/12/05 02:00 - 2004/12/08 09:00 (80)
2004/12/25 23:00 - 2004/12/26 09:00 (11)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Temperature (-0.01m)

2003/10/03 17:00 - 2003/10/04 16:00 (24)
2003/10/24 10:00 - 2003/11/20 16:00 (655)
2003/12/14 17:00 - 2003/12/15 16:00 (24)
2003/12/22 13:00 - 2003/12/24 00:00 (36)
2003/12/31 02:00 - 2003/12/31 16:00 (15)
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2004/08/20 01:00 - 2004/08/22 00:00 (48)
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2004/11/15 21:00 - 2004/11/16 02:00 (6)
2004/11/20 10:00 - 2004/11/27 09:00 (168)
2004/12/05 02:00 - 2004/12/08 09:00 (80)
2004/12/25 23:00 - 2004/12/26 09:00 (11)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Moisture (-2.00m)

2003/10/03 17:00 - 2003/10/04 16:00 (24)
2003/10/24 10:00 - 2003/11/20 16:00 (655)
2003/12/14 17:00 - 2003/12/15 16:00 (24)
2003/12/22 13:00 - 2003/12/24 00:00 (36)
2003/12/31 02:00 - 2003/12/31 16:00 (15)
2004/01/01 08:00
2004/01/18 19:00 - 2004/01/21 09:00 (63)
2004/01/24 17:00 - 2004/01/27 10:00 (66)
2004/04/19 01:00 - 2004/06/30 10:00 (1738)
2004/07/20 10:00 - 2004/07/21 02:00 (17)
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2004/12/05 02:00 - 2004/12/08 09:00 (80)
2004/12/25 23:00 - 2004/12/26 09:00 (11)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Moisture (-0.50m)

2003/10/03 17:00 - 2003/10/04 16:00 (24)
2003/10/24 10:00 - 2003/11/20 16:00 (655)
2003/12/14 17:00 - 2003/12/15 16:00 (24)
2003/12/22 13:00 - 2003/12/24 00:00 (36)
2003/12/31 02:00 - 2003/12/31 16:00 (15)
2004/01/01 08:00
2004/01/18 19:00 - 2004/01/21 09:00 (63)
2004/01/24 17:00 - 2004/01/27 10:00 (66)
2004/04/19 01:00 - 2004/06/30 10:00 (1738)
2004/07/20 10:00 - 2004/07/21 02:00 (17)
2004/07/24 09:00 - 2004/07/28 00:00 (88)
2004/08/15 01:00 - 2004/08/16 07:00 (31)
2004/08/20 01:00 - 2004/08/22 00:00 (48)
2004/08/30 03:00 - 2004/08/31 00:00 (22)
2004/09/02 01:00 - 2004/09/03 00:00 (24)

2004/09/26 10:00 - 2004/09/28 09:00 (48)
2004/10/05 01:00 - 2004/10/06 09:00 (33)
2004/10/24 10:00 - 2004/10/26 09:00 (48)
2004/11/02 01:00 - 2004/11/03 09:00 (33)
2004/11/06 10:00 - 2004/11/12 09:00 (144)
2004/11/13 23:00 - 2004/11/14 01:00 (3)
2004/11/14 18:00 - 2004/11/15 01:00 (8)
2004/11/15 21:00 - 2004/11/16 02:00 (6)
2004/11/20 10:00 - 2004/11/27 09:00 (168)
2004/12/05 02:00 - 2004/12/08 09:00 (80)
2004/12/25 23:00 - 2004/12/26 09:00 (11)
2004/12/31 17:00 - 2004/12/31 23:00 (7)