

TITLE

CAMP_NorthEastThai_Nakhornrachasima_20021001_20030331.stm

CONTACT

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DATE OF THIS DOCUMENT

31 Aug. 2004
(Updated 3 July, 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 and surface fluxes. The purpose of Nakhornrachasima-AWS (Automatic Weather Station) observation is to monitor these meteorological values and analyse the mechanisms of the energy and water cycle in the Cassava field 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 : 14.466 N
Longitude : 102.379 E
Elevation : 311.0m a.s.l.
Landscape : Cassava Field

Canopy height : Cassava canopy height: 250cm (in dry season there is no vegetation).

From May to Oct. the height of the Cassava is change with the growing season, while the maximum height is around the 250cm.

Soil Characteristics: Uniform Acrisols up to 7m depth

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_6cm : Soil Temperature at the 6cm depth (deg.C)
Soil Temp_10cm : Soil Temperature at the 10cm depth (deg.C)
Soil Temp_15cm : Soil Temperature at the 15cm depth (deg.C)
Soil Temp_20cm : Soil Temperature at the 20cm depth (deg.C)
Soil Temp_30cm : Soil Temperature at the 30cm depth (deg.C)
Soil Temp_50cm : Soil Temperature at the 50cm depth (deg.C)
Soil Moist_14cm : Soil Moisture at the 15cm depth (%)
Soil Moist_15cm : Soil Moisture at the 15cm 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 the 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.

There are two Soil Moisture sensors at the 15 cm depth.

(Note: This time, we entered separately Soil Moisture 14cm and Soil Moisture 15cm depth. Actually both Soil Moisture 14cm and Soil Moisture 15cm are 15cm data.)

3.3 Format description

http://www.eol.ucar.edu/projects/ceop/dm/documents/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 through 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

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) under the framework of GEWEX Asian Monsoon Experiment Tropics (GAME-T).

8.0 REFERENCES

None

9.0 Missing Data Periods

File Name : CAMP_NorthEastThai_Nakhonrachasima_20021001_20030331.stm
Data Period : 2002/10/01 00:00 - 2003/03/31 23:00

Soil Temperature (-0.50m)

2002/10/24 09:00 - 2002/10/25 04:00 (20)

2003/03/01 06:00 - 2003/03/01 16:00 (11)

2003/03/03 14:00

Soil Temperature (-0.30m)

2002/10/24 09:00 - 2002/10/25 04:00 (20)

2003/03/01 06:00 - 2003/03/01 16:00 (11)

2003/03/03 14:00

Soil Temperature (-0.20m)

2002/10/24 09:00 - 2002/10/25 04:00 (20)

2003/03/01 06:00 - 2003/03/01 16:00 (11)

2003/03/03 14:00

Soil Temperature (-0.15m)

2002/10/24 09:00 - 2002/10/25 04:00 (20)

2003/03/01 06:00 - 2003/03/01 16:00 (11)

2003/03/03 14:00

Soil Temperature (-0.14m)

2002/10/01 00:00 - 2003/03/31 23:00 (ALL)

Soil Temperature (-0.10m)

2002/10/24 09:00 - 2002/10/25 04:00 (20)

2003/03/01 06:00 - 2003/03/01 16:00 (11)

2003/03/03 14:00

Soil Temperature (-0.06m)

2002/10/24 09:00 - 2002/10/25 04:00 (20)

2003/03/01 06:00 - 2003/03/01 16:00 (11)

2003/03/03 14:00

Soil Moisture (-0.50m)

2002/10/01 00:00 - 2003/03/31 23:00 (ALL)

Soil Moisture (-0.30m)

2002/10/01 00:00 - 2003/03/31 23:00 (ALL)

Soil Moisture (-0.20m)

2002/10/01 00:00 - 2003/03/31 23:00 (ALL)

Soil Moisture (-0.15m)

2003/03/01 06:00 - 2003/03/01 16:00 (11)

2003/03/03 14:00

Soil Moisture (-0.14m)

2003/03/01 06:00 - 2003/03/01 16:00 (11)

2003/03/03 14:00

Soil Moisture (-0.10m)

2002/10/01 00:00 - 2003/03/31 23:00 (ALL)

Soil Moisture (-0.06m)

2002/10/01 00:00 - 2003/03/31 23:00 (ALL)

TITLE

CAMP_NorthEastThai_Nakhonrachasima_20030401_20030930.stm

CONTACT

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DATE OF THIS DOCUMENT

29 May 2006

1. 0 DATASET OVERVIEW

1.7 Introduction

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

The purpose of Nakhorn-ratchasima-AWS (Automatic Weather Station) observation is to monitor these meteorological values and analyse the mechanisms of the energy and water cycle in the Cassava field 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 : 14.466 N

Longitude : 102.379 E

Elevation : 311.0m a.s.l.

Landscape : Cassava Field

Canopy height : Cassava canopy height: 250cm (in dry season there is no vegetation).

From May to Oct. the height of the Cassava is change with the growing season, while the maximum height is around the 250cm.

Soil Characteristics: Uniform acrisols up to 7m depth

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_6cm : Soil Temperature at the 6cm depth (deg.C)
Soil Temp_10cm : Soil Temperature at the 10cm depth (deg.C)
Soil Temp_15cm : Soil Temperature at the 15cm depth (deg.C)
Soil Temp_20cm : Soil Temperature at the 20m depth (deg.C)
Soil Temp_30cm : Soil Temperature at the 30cm depth (deg.C)
Soil Temp_50cm : Soil Temperature at the 50cm depth (deg.C)
Soil Moist_14cm : Soil Moisture at the 15cm depth (%)
Soil Moist_15cm : Soil Moisture at the 15cm depth (%)

3.0 DATA COLLECTION AND PROCESSING

3.1 Description of data collection

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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.

There are two Soil Moisture sensors at the 15 cm depth.

(Note: This time, we entered separately Soil Moisture 14cm and Soil Moisture 15cm depth. Actually both Soil Moisture 14cm and Soil Moisture 15cm are 15cm data.)

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

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

9.0 Missing Data Periods

File Name : CAMP_NorthEastThai_Nakhonrachasima_20030401_20030930.stm
Data Period : 2003/04/01 00:00 - 2003/09/30 23:00

Soil Temperature (-0.50m)

2003/07/21 18:00
2003/07/23 22:00
2003/07/26 19:00
2003/09/03 06:00 - 2003/09/04 07:00 (26)

Soil Temperature (-0.30m)

2003/07/21 18:00
2003/07/23 22:00
2003/07/26 19:00
2003/09/03 06:00 - 2003/09/04 07:00 (26)

Soil Temperature (-0.20m)

2003/07/21 18:00

2003/07/23 22:00

2003/07/26 19:00

2003/09/03 06:00 - 2003/09/04 07:00 (26)

Soil Temperature (-0.15m)

2003/07/21 18:00

2003/07/21 20:00

2003/07/23 22:00

2003/07/26 14:00

2003/07/26 19:00

2003/09/03 06:00 - 2003/09/04 07:00 (26)

Soil Temperature (-0.14m)

2003/04/01 00:00 - 2003/09/30 23:00 (ALL)

Soil Temperature (-0.10m)

2003/07/21 18:00

2003/07/21 20:00

2003/07/23 22:00

2003/07/26 14:00

2003/07/26 19:00

2003/09/03 06:00 - 2003/09/04 07:00 (26)

Soil Temperature (-0.06m)

2003/07/21 18:00

2003/07/21 20:00

2003/07/23 22:00

2003/07/26 19:00

2003/09/03 06:00 - 2003/09/04 07:00 (26)

Soil Moisture (-0.50m)

2003/04/01 00:00 - 2003/09/30 23:00 (ALL)

Soil Moisture (-0.30m)

2003/04/01 00:00 - 2003/09/30 23:00 (ALL)

Soil Moisture (-0.20m)

2003/04/01 00:00 - 2003/09/30 23:00 (ALL)

Soil Moisture (-0.15m)

2003/09/03 06:00 - 2003/09/30 23:00 (666)

Soil Moisture (-0.14m)

2003/07/21 18:00

2003/08/14 17:00 - 2003/09/30 23:00 (1135)

Soil Moisture (-0.10m)

2003/04/01 00:00 - 2003/09/30 23:00 (ALL)

Soil Moisture (-0.06m)
2003/04/01 00:00 - 2003/09/30 23:00 (ALL)

TITLE

CAMP_NorthEastThai_Nakhonrachasima_20031001_20041231.stm

CONTACT

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DATE OF THIS DOCUMENT

29 Nov. 2006
(Updated 08 Feb. 2007)

1. 0 DATASET OVERVIEW

1.13 Introduction

To clarify the energy and water cycle in the Thailand, it is important to understand the characteristics of the basic meteorological elements and surface fluxes. The purpose of Nakhorn-ratchasima-AWS (Automatic Weather Station) observation is to monitor these meteorological values and analyse the mechanisms of the energy and water cycle in the Cassava field in tropical Monsoon areas.

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 : 14.466 N
Longitude : 102.379 E
Elevation : 311.0m a.s.l.
Landscape : Cassava Field
Canopy height : Cassava canopy height: 250cm (in dry season there is no vegetation).

From May to Oct. the height of the Cassava is change with the growing season, while the maximum height is around the 250cm.

Soil Characteristics: Uniform acrisols up to 7m depth

1.17 Data source

1.18 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

2.5 Instrumentation specification

Soil Temp_6cm : Soil Temperature at the 6cm depth (deg.C)
Soil Temp_10cm : Soil Temperature at the 10cm depth (deg.C)
Soil Temp_15cm : Soil Temperature at the 15cm depth (deg.C)
Soil Temp_20cm : Soil Temperature at the 20m depth (deg.C)
Soil Temp_30cm : Soil Temperature at the 30cm depth (deg.C)
Soil Temp_50cm : Soil Temperature at the 50cm depth (deg.C)
Soil Moist_14cm : Soil Moisture at the **15cm** depth (%)
Soil Moist_15cm : Soil Moisture at the 15cm depth (%)

3.0 DATA COLLECTION AND PROCESSING

3.1 Description of data collection

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There are two Soil Moisture sensors at the 15 cm depth.

(Note: This time, we entered separately Soil Moisture 14cm and Soil Moisture 15cm depth. Actually both Soil Moisture 14cm and Soil Moisture 15cm are **15cm data.)**

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.

There is a period where the soil temperature at the -0.10 m height is 2 to 5 degC higher than the soil temperature at the -0.06 m height. The reason is not clear but maybe the soil temperature value at -0.06m was affected by the surface condition such as vegetation cover and it's root. Then we put "D" flag for them.

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

9.0 Missing Data Periods

File Name : CAMP_NorthEastThai_Nakhonrachasima_20031001_20041231.stm
Data Period : 2003/10/01 00:00 - 2004/12/31 23:00

Soil Temperature (-0.50m)

2004/03/01 00:00 - 2004/03/01 05:00 (6)

2004/12/29 18:00 - 2004/12/30 00:00 (7)

2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Temperature (-0.30m)

2004/03/01 00:00 - 2004/03/01 05:00 (6)
2004/12/29 18:00 - 2004/12/30 00:00 (7)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Temperature (-0.20m)

2004/03/01 00:00 - 2004/03/01 05:00 (6)
2004/12/29 18:00 - 2004/12/30 00:00 (7)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Temperature (-0.15m)

2004/03/01 00:00 - 2004/03/01 05:00 (6)
2004/12/29 18:00 - 2004/12/30 00:00 (7)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Temperature (-0.10m)

2004/03/01 00:00 - 2004/03/01 05:00 (6)
2004/12/29 18:00 - 2004/12/30 00:00 (7)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Temperature (-0.06m)

2004/03/01 00:00 - 2004/03/01 05:00 (6)
2004/12/29 18:00 - 2004/12/30 00:00 (7)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Moisture (-0.15m)

2003/10/01 00:00 - 2004/09/25 19:00 (8660)
2004/12/31 17:00 - 2004/12/31 23:00 (7)

Soil Moisture (-0.14m)

2003/10/01 00:00 - 2004/09/25 19:00 (8660)
2004/12/31 17:00 - 2004/12/31 23:00 (7)