

TITLE: CAMP\_Tibet\_Gaize\_20021001\_20030331.stm.txt

CONTACT(S):

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#### 1.0 DATA SET OVERVIEW:

##### 1.1 Introduction or abstract

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

The purpose of gaize AWS (Automatic Weather Station) observation is to monitor these meteorological values.

##### 1.2 Time period covered by the data

The First half CEOP EOP-3 time period (01 October 2002 to 31 March 2003).

##### 1.3 Physical location (including lat/lon/elev) of the measurement or platform

Station name	Lat.(deg.)	Long. (deg.)	Alt.(m)	Measurement interval
Gaize	32.30	84.05	4416	1 hour

##### 1.4 Data source if applicable (e.g. for operational data include agency)

##### 1.5 Any World Wide Web address references

<http://monsoon.t.u-tokyo.ac.jp/camp/tibets/>

#### 2.0 INSTRUMENTATION DESCRIPTION:

Table : AWS Type of Data.

Parameter/Variable Description	Range	Units	Source
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soil surface temperature	-50 - +50	degC	thermometer
-----+-----+-----+-----			
soil temperature	-50 - +50	degC	thermometer
-----+-----+-----+-----			
soil moisture	0 - 95	%	Trime EZ
=====			

- Ts(0cm) : Soil Temperature at the 0cm depth (deg.C)
- Ts(5cm) : Soil Temperature at the 5cm depth (deg.C)
- Ts(10cm) : Soil Temperature at the 10cm depth (deg.C)
- Ts(20cm) : Soil Temperature at the 20cm depth (deg.C)
- Ts(40cm) : Soil Temperature at the 40cm depth (deg.C)
- Ts(80cm) : Soil Temperature at the 80cm depth (deg.C)
- SW(3cm) : Soil Moisture at 3cm in depth, instantaneous value in (%)
- SW(20cm) : Soil Moisture at 20cm in depth, instantaneous value in (%)
- SW(40cm) : Soil Moisture at 40cm in depth, instantaneous value in (%)

### 3.0 DATA COLLECTION AND PROCESSING:

Surface radiation temperature is measured by radiation thermometer.

Soil moisture is measured by using Trime EZ sensor. Trime EZ is applied to TDR (Time Domain Reflectometry) method. The principle of the TDR is based on measuring the propagation time of an electromagnetic pulse along measuring pins in the sample. The propagation time depends on the humidity content of the medium to be measured.

### 4.0 QUALITY CONTROL PROCEDURES

PI performed visual checks on this data set.

### 5.0 GAP FILLING PROCEDURES

Filled in gap by the Missing value "-999.99".

### 6.0 DATA REMARKS:

#### 6.1 Missing data periods

### 7.0 REFERENCE REQUIREMENTS:

Original data was collected and is provided within the framework of GAME/CAMP Tibet Scientific and Technological Research Project, funded by the Ministry of Education, Culture, Sports, Science and Technology; the Japan Science and Technology Agency; the Frontier Research System for Global Change; the Japan Aerospace Exploration Agency; the Chinese Academy of Sciences; and the Chinese Academy of Meteorological Sciences

### 8.0 REFERENCES:

S. Haginoya, 2001: Seasonal and annual variation of heat balance in the western Tibet, Proceedings of the International Workshop on GAME-AAN/Radiation, Thailand, 63-66.

S. Haginoya, 2001: Study on the Surface Heat Balance in the Tibetan Plateau - Precision of Bowen Ratio Method, Proc. of the 2nd

International Workshop on TIPEX/GAME-Tibet, Kunming, China.

J. Xu and S. Haginoya, 2001: An Estimation of Heat and Water Balances in the Tibetan Plateau, J. Meteor. Soc. Japan, 79(1B), 485-504.

## TITLE

TITLE: CAMP\_Tibet\_Gaize\_20030401\_20030930.stm.doc

## CONTACT

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## DATE OF THIS DOCUMENT

14 Jan. 2005

### 1. 0 DATASET OVERVIEW

#### 1.1 Introduction

To clarify the energy and water cycle in the Tibetan Plateau, it is important to understand the characteristics of the basic meteorological elements and surface fluxes. The purpose of Gaize AWS (Automatic Weather Station) observation is to monitor these meteorological values.

#### 1.2 Time period covered by the data

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

#### 1.3 Temporal characteristics of the data

All parameters are recoded every 1 hour.

#### 1.4 Physical location of the measurement

Latitude : 32.30 N  
Longitude : 84.05 E  
Elevation : 4416 m a.s.l.  
Landscape : Bare land (with the thin weed-like plant): Plain land  
Canopy height : Less than 5cm.  
Soil Characteristics: Silt loam

#### 1.5 Data source

#### 1.6 WWW address references

## 2.0 INSTRUMENTATION DESCRIPTION

### 2.1 Platform

The sensors are mounted on several heights.

### 2.2 Description of the instrumentation

Parameter	Model	Manufacturer
Soil surface temperature	Pt100	Ogasawara Keiki
Soil temperature	Pt100	Ogasawara Keiki
Soil moisture	Trime EZ	VAISALA

### 2.3 Instrumentation specification

- Ts(0cm) : Soil Temperature at the 0cm depth (deg.C)
- Ts(5cm) : Soil Temperature at the 5cm depth (deg.C)
- Ts(10cm) : Soil Temperature at the 10cm depth (deg.C)
- Ts(20cm) : Soil Temperature at the 20cm depth (deg.C)
- Ts(40cm) : Soil Temperature at the 40cm depth (deg.C)
- Ts(80cm) : Soil Temperature at the 80cm depth (deg.C)
- SW(3cm) : Soil moisture at 3cm in depth, instantaneous value in (%)
- SW(20cm) : Soil moisture at 20cm in depth, instantaneous value in (%)
- SW(40cm) : Soil moisture at 40cm in depth, instantaneous value in (%)

## 3.0 DATA COLLECTION AND PROCESSING

### 3.1 Description of data collection

### 3.2 Description of derived parameters and processing techniques used

**Surface radiation temperature** is measured by radiation thermometer.

**Soil temperature** is measured by using Pt100 resistance Thermometer.

**Soil moisture** is measured by using Trime EZ sensor. Trime EZ is applied to TDR (Time Domain Reflectometry) method. The principle of the TDR is based on measuring the propagation time of an electromagnetic pulse along measuring pins in the sample. The propagation 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

None

### 6.2 Missing data periods

Soil\_Temperature\_0cm is 2003/07/28 05:00:00  
Soil\_Temperature\_5cm is 2003/07/28 05:00:00  
Soil\_Temperature\_10cm is 2003/07/28 05:00:00  
Soil\_Temperature\_20cm is 2003/07/28 05:00:00  
Soil\_Temperature\_40cm is 2003/07/28 05:00:00  
Soil\_Temperature\_80cm is 2003/07/28 05:00:00  
Soil\_Moisture\_3cm is 2003/07/28 05:00:00  
Soil\_Moisture\_20cm is 2003/07/08 04:00:00 - 2003/07/08 05:00:00  
2003/07/25 00:00:00 - 2003/07/25 06:00:00  
2003/07/25 16:00:00  
2003/07/25 18:00:00 - 2003/07/26 01:00:00  
2003/07/26 03:00:00 - 2003/07/26 05:00:00  
2003/07/26 07:00:00 - 2003/07/26 09:00:00  
2003/07/26 19:00:00 - 2003/07/27 01:00:00  
2003/07/27 03:00:00 - 2003/07/27 08:00:00  
2003/07/27 17:00:00 - 2003/07/27 18:00:00  
2003/07/27 20:00:00  
2003/07/27 23:00:00  
2003/07/28 05:00:00  
2003/07/28 11:00:00  
2003/07/28 13:00:00 - 2003/07/28 15:00:00  
2003/07/29 12:00:00 - 2003/07/29 13:00:00  
2003/07/29 17:00:00  
2003/07/30 08:00:00 - 2003/07/30 21:00:00  
2003/07/31 05:00:00  
2003/07/31 08:00:00 - 2003/07/31 10:00:00  
2003/07/31 18:00:00 - 2003/08/01 01:00:00  
2003/08/01 05:00:00 - 2003/08/01 06:00:00  
2003/08/01 08:00:00 - 2003/08/01 10:00:00  
2003/08/01 12:00:00  
2003/08/01 15:00:00  
2003/08/01 17:00:00 - 2003/08/01 22:00:00  
2003/08/02 06:00:00 - 2003/08/02 09:00:00  
2003/08/02 12:00:00  
2003/08/02 18:00:00 - 2003/08/02 20:00:00  
2003/08/02 22:00:00 - 2003/08/02 23:00:00  
2003/08/03 01:00:00  
2003/08/03 04:00:00 - 2003/08/03 10:00:00  
2003/08/03 16:00:00 - 2003/08/03 21:00:00  
2003/08/03 23:00:00

2003/08/04 06:00:00 - 2003/08/04 17:00:00  
2003/08/05 10:00:00 - 2003/08/05 15:00:00  
2003/08/08 12:00:00 - 2003/08/08 13:00:00

Soil\_Moisture\_40cm is 2003/07/28 05:00:00

## **7.0 REFERENCE REQUIREMENTS**

Original data was collected and is provided within the framework of GAME/CAMP Tibet Scientific and Technological Research Project, funded by the Ministry of Education, Culture, Sports, Science and Technology; the Japan Science and Technology Agency; the Frontier Research System for Global Change; the Japan Aerospace Exploration Agency; the Chinese Academy of Sciences; and the Chinese Academy of Meteorological Sciences.

## **8.0 REFERENCES**

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S. Haginoya, 2001: Study on the Surface Heat Balance in the Tibetan Plateau - Precision of Bowen Ratio Method, Proc. of the 2nd International Workshop on TIPEX/GAME-Tibet, Kunming, China.

J. Xu and S. Haginoya, 2001: An Estimation of Heat and Water Balances in the Tibetan Plateau, J. Meteor. Soc. Japan, 79(1B), 485-504.

## TITLE

TITLE: CAMP\_Tibet\_Gaize\_20031001\_20041231.stm

## CONTACT

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## DATE OF THIS DOCUMENT

30 May. 2006

## 1. 0 DATASET OVERVIEW

### 1.7 Introduction

To clarify the energy and water cycle in the Tibetan Plateau, it is important to understand the characteristics of the basic meteorological elements and surface fluxes. The purpose of Gaize AWS (Automatic Weather Station) observation is to monitor these meteorological values.

### 1.8 Time period covered by the data

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

### 1.9 Temporal characteristics of the data

All parameters are recoded every 1 hour.

### 1.10 Physical location of the measurement

Latitude : 32.30 N  
Longitude : 84.05 E  
Elevation : 4416 m a.s.l.  
Landscape : Bare land (with the thin weed-like plant): Plain land  
Canopy height : Less than 5cm.  
Soil Characteristics: Silt loam

### 1.11 Data source

### 1.12 WWW address references



## 2.0 INSTRUMENTATION DESCRIPTION

### 2.1 Platform

The sensors are mounted on several heights.

### 2.2 Description of the instrumentation

Parameter	Model	Manufacturer
Soil surface temperature	Pt100	Ogasawara Keiki
Soil temperature	Pt100	Ogasawara Keiki
Soil moisture	Trime EZ	IMKO

### 2.4 Instrumentation specification

- Ts(0cm) : Soil Temperature at the 0cm depth (deg.C)
- Ts(5cm) : Soil Temperature at the 5cm depth (deg.C)
- Ts(10cm) : Soil Temperature at the 10cm depth (deg.C)
- Ts(20cm) : Soil Temperature at the 20cm depth (deg.C)
- Ts(40cm) : Soil Temperature at the 40cm depth (deg.C)
- Ts(80cm) : Soil Temperature at the 80cm depth (deg.C)
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- SW(20cm) : Soil moisture at 20cm in depth, instantaneous value in (%)
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## 3.0 DATA COLLECTION AND PROCESSING

### 3.1 Description of data collection

### 3.2 Description of derived parameters and processing techniques used

**Soil Surface temperature** is measured by Pt100 resistance thermometer.

**Soil temperature** is measured by using Pt100 resistance Thermometer.

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## 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

None

## 7.0 REFERENCE REQUIREMENTS

Original data was collected and is provided within the framework of GAME/CAMP Tibet Scientific and Technological Research Project, funded by the Ministry of Education, Culture, Sports, Science and Technology; the Japan Science and Technology Agency; the Frontier Research System for Global Change; the Japan Aerospace Exploration Agency; the Chinese Academy of Sciences; and the Chinese Academy of Meteorological Sciences.

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S. Haginoya, 2001: Study on the Surface Heat Balance in the Tibetan Plateau - Precision of Bowen Ratio Method, Proc. of the 2nd International Workshop on TIPEX/GAME-Tibet, Kunming, China.

J. Xu and S. Haginoya, 2001: An Estimation of Heat and Water Balances in the Tibetan Plateau, J. Meteor. Soc. Japan, 79(1B), 485-504.

## 9.0 Missing Data Periods

-----  
File Name : CAMP\_Tibet\_Gaize\_20031001\_20041231.stm  
Data Period : 2003/10/01 00:00 - 2004/12/31 23:00  
-----

Soil Temperature (-0.80m)  
2004/05/23 23:00

Soil Temperature (-0.40m)  
2004/05/23 23:00

Soil Temperature (-0.20m)

2004/05/23 23:00

Soil Temperature (-0.10m)

2004/05/23 23:00

Soil Temperature (-0.05m)

2004/05/23 23:00

Soil Temperature (-0.03m)

2003/10/01 00:00 - 2004/12/31 23:00 (ALL)

Soil Temperature (0.00m)

2004/05/23 23:00

Soil Moisture (-0.80m)

2003/10/01 00:00 - 2004/12/31 23:00 (ALL)

Soil Moisture (-0.40m)

2004/05/23 23:00

Soil Moisture (-0.20m)

2004/05/23 23:00

Soil Moisture (-0.10m)

2003/10/01 00:00 - 2004/12/31 23:00 (ALL)

Soil Moisture (-0.05m)

2003/10/01 00:00 - 2004/12/31 23:00 (ALL)

Soil Moisture (-0.03m)

2003/10/26 01:00 - 2003/10/26 02:00 (2)

2003/10/26 22:00 - 2003/10/27 02:00 (5)

2003/10/27 21:00 - 2003/10/27 23:00 (3)

2003/10/28 23:00

2003/10/29 01:00

2003/10/30 01:00 - 2003/10/30 02:00 (2)

2003/10/30 22:00 - 2003/10/31 02:00 (5)

2003/10/31 18:00 - 2003/11/01 02:00 (9)

2003/11/23 02:00

2003/12/27 01:00 - 2003/12/27 03:00 (3)

2003/12/30 02:00 - 2003/12/30 03:00 (2)

2003/12/30 22:00 - 2003/12/31 04:00 (7)

2004/01/01 01:00 - 2004/01/01 02:00 (2)

2004/01/01 18:00 - 2004/01/02 03:00 (10)

2004/01/02 15:00 - 2004/01/03 04:00 (14)

2004/01/03 12:00

2004/01/03 15:00 - 2004/01/03 19:00 (5)

2004/01/03 21:00 - 2004/01/04 04:00 (8)

2004/01/04 16:00 - 2004/01/05 04:00 (13)

2004/01/05 22:00

2004/01/06 21:00

2004/01/06 23:00 - 2004/01/07 02:00 (4)  
2004/01/10 01:00  
2004/01/10 20:00  
2004/01/10 23:00  
2004/01/11 01:00 - 2004/01/11 02:00 (2)  
2004/01/11 20:00 - 2004/01/12 03:00 (8)  
2004/01/13 22:00 - 2004/01/14 03:00 (6)  
2004/01/14 20:00 - 2004/01/15 03:00 (8)  
2004/01/16 00:00 - 2004/01/16 02:00 (3)  
2004/01/16 23:00 - 2004/01/17 02:00 (4)  
2004/01/17 21:00 - 2004/01/18 02:00 (6)  
2004/01/18 19:00  
2004/01/18 21:00 - 2004/01/18 23:00 (3)  
2004/01/19 01:00 - 2004/01/19 02:00 (2)  
2004/01/25 02:00 - 2004/01/25 03:00 (2)  
2004/05/21 05:00 - 2004/05/21 12:00 (8)  
2004/05/23 23:00  
2004/08/14 22:00 - 2004/08/14 23:00 (2)  
2004/10/16 00:00 - 2004/10/16 01:00 (2)  
2004/10/22 22:00 - 2004/10/23 02:00 (5)  
2004/11/26 00:00 - 2004/11/26 03:00 (4)  
2004/11/26 21:00 - 2004/11/27 03:00 (7)  
2004/11/27 21:00 - 2004/11/28 03:00 (7)  
2004/11/28 21:00 - 2004/11/29 01:00 (5)  
2004/11/29 23:00 - 2004/11/30 03:00 (5)  
2004/11/30 23:00  
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2004/12/06 22:00 - 2004/12/06 23:00 (2)  
2004/12/07 02:00  
2004/12/09 02:00  
2004/12/10 00:00 - 2004/12/10 03:00 (4)  
2004/12/10 21:00 - 2004/12/11 03:00 (7)  
2004/12/11 20:00 - 2004/12/11 22:00 (3)  
2004/12/12 00:00  
2004/12/12 03:00 - 2004/12/12 04:00 (2)  
2004/12/12 18:00 - 2004/12/13 03:00 (10)  
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2004/12/13 20:00 - 2004/12/14 04:00 (9)  
2004/12/14 16:00 - 2004/12/15 03:00 (12)  
2004/12/16 00:00 - 2004/12/16 03:00 (4)  
2004/12/16 16:00  
2004/12/16 18:00 - 2004/12/17 03:00 (10)  
2004/12/17 20:00 - 2004/12/18 03:00 (8)  
2004/12/18 18:00 - 2004/12/19 03:00 (10)  
2004/12/19 22:00 - 2004/12/20 03:00 (6)

2004/12/20 18:00 - 2004/12/21 04:00 (11)  
2004/12/21 15:00 - 2004/12/22 03:00 (13)  
2004/12/23 01:00 - 2004/12/23 02:00 (2)  
2004/12/25 03:00

Soil Moisture (0.00m)

2003/10/01 00:00 - 2004/12/31 23:00 (ALL)