TITLE

CAMP_Tibet_BJ-SAWS3_20021001_20030331.sfc

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DATE OF THIS DOCUMENT

02 Sep. 2004

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 Tibet AWS (Automatic Weather Station) observation is to improve the quantitative understanding of land-atmosphere interactions over the Tibetan Plateau and develop the land surface process models by monitoring these meteorological values.

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 : 31.37137 N
Longitude : 91.90236 E
Elevation : 4509.2 m a.s.l.
Landscape : Grassland
Canopy height : 10 ~ 20cm.
Soil Characteristics: Sand

1.5 Data source

1.6 Website address references

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

2.0 INSTRUMENTATION DESCRIPTION

2.1 Platform

Three Small AWS systems are constructed in June 2002 to represent the local scale (100m ~ 1km) heterogeneity of the surface condition to measure surface and soil temperature, soil moisture and heat flux. The wind speed and direction are only measured as the meteorological element in this system. This S-AWS (No.3) is located about 460 m northeast from main AWS of BJ site. A small river (less than 1 m in width and depth) runs nearby and the surface condition of this site is solely wet. The sensors are mounted on several heights.

2.2 Description of the instrumentation

Parameter	Model	Manufacturer
Station Pressure	N/A	N/A
Air Temperature	N/A	N/A
Relative Humidity	N/A	N/A
Wind Speed	YG-5103	Young
Wind Direction	YG-5103	Young
Precipitation	N/A	N/A
Snow Depth	N/A	N/A
Incoming Shortwave	N/A	N/A
Outgoing Shortwave	N/A	N/A
Incoming Longwave	N/A	N/A
Outgoing Longwave	N/A	N/A
Skin Temperature	IRt/C 1X-T50F	Exergen

2.3 Instrumentation specification

Wind Speed (3.0 m)	: Wind Speed at the 3.0 m height (m/s)
Wind Direction (3.0 m)	: Wind Direction at the 3.0 m height (deg.)
Skin Temperature (0.95 m)	: Surface Temperature sensed at the 0.95 m height (deg.C)

3.0 DATA COLLECTION AND PROCESSING

3.1 Description of data collection

Original data are sampled at every 5 seconds (0.2Hz) and 10-minute average (except soil moisture, sampled at every 10 minutes) is computed and stored in a data logger (Campbell CR-10X).
Data are downloaded from the Tower twice every year, in spring and summer. Then, data are sent to Japan, where they are processed.

3.2 Description of derived parameters and processing techniques used

Wind speed, Wind direction and Skin Temperature are averaged over the previous hour.

And the Two parameters indicated below were computed by using “CEOP Derived Parameter Equations : http://www.joss.ucar.edu/ghp/ceopdm/refdata_report/eqns.html” . also put the data flag “I”,

U,V Components were computed by using (GEMPAK):

```
U = -sin(direction) * wind_speed;
V = -cos(direction) * wind_speed;
```

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

6.2 Missing data periods

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.

8.0 REFERENCES

H. Ishikawa and GAME-Tibet Boundary Layer Group, 2001: What has been known and what has not in GAME/Tibet BL observation, Proceedings of the Fifth International Study Conference on GEWEX in Asia and GAME, 691.

Ma, Yaoming, O. Tsukamoto， H. Ishikawa, Z. Su, M. Menenti, J. Wang and J. Wen, 2002: Determination of regional land surface heat flux densities over heterogeneous landscape of HEIFE integrating satellite remote sensing with field observations, Jour. Meteorol. Soc. Japan, 80(3), 485-501.

K. Tanaka, I. Tamagawa, H. Ishikawa, Y. Ma and Z. Hu, 2003: Surface energy and closure of the eastern Tibetan Plateau during the GAME-Tibet IOP 1998, J. Hydrology, vol. 283, pp. 169-183

K. Tanaka and H. Ishikawa, 2001: Long term monitoring of surface energy fluxes of the Amdo PBL site in the eastern Tibetan Plateau, Proceedings of the Fifth International Study Conference on GEWEX in Asia and GAME, 384-388.

Ueno, K., H. Fujii, H. Yamada and L. Liu, （2001） Weak and Frequent Monsoon Precipitation over the Tibetan Plateau. J. Meteor. Soc. Japan, 79, 1B, 419-434.

TITLE

CAMP_Tibet_BJ-SAWS3_20030401_20030930.sfc

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DATE OF THIS DOCUMENT

19 Apr. 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 Tibet AWS (Automatic Weather Station) observation is to improve the quantitative understanding of land-atmosphere interactions over the Tibetan Plateau and develop the land surface process models by monitoring these meteorological values.

1.8 Time period covered by the data

Start: 1 October 2002, 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 : 31.37137 N
Longitude : 91.90236 E
Elevation : 4509.2 m a.s.l.
Landscape : Bare land (with the thin weed-like plant)
Canopy height : Less than 5cm.
Soil Characteristics: Sand

1.11 Data source

1.12 Website address references

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

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	N/A	N/A
Air Temperature	N/A	N/A
Relative Humidity	N/A	N/A
Wind Speed	YG-5103	Young
Wind Direction	YG-5103	Young
Precipitation	N/A	N/A
Snow Depth	N/A	N/A
Incoming Shortwave	N/A	N/A
Outgoing Shortwave	N/A	N/A
Incoming Longwave	N/A	N/A
Outgoing Longwave	N/A	N/A
Skin Temperature	IRt/C 1X-T50F	Exergen

2.4 Instrumentation specification

Wind Speed (3.0m) : Wind Speed at the 3.0m height (m/s)
Wind Direction (3.0m) : Wind Direction at the 3.0m height (deg.)
Skin Temperature (1.4m) : Surface Temperature senced at the 1.4m height (deg.C)

3.0 DATA COLLECTION AND PROCESSING

3.1 Description of data collection

Data are sampled at every 5 second (0.2Hz) average is computed and stored in a datalogger (Campbell CR-10X).
Data are downloaded from the Tower twice every year, in spring and summer. Then, data are sent to Japan, where they are processed.

3.2 Description of derived parameters and processing techniques used

Wind speed, Wind direction and Skin Temperature are averaged over the previous hour.

And the Two parameters indicated below were computed by using “CEOP Derived Parameter Equations : http://www.joss.ucar.edu/ghp/ceopdm/refdata_report/eqns.html” . also put the data flag “I”,

U,V Components were computed by using (GEMPAK):

```
U = -sin(direction) * wind_speed;
V = -cos(direction) * wind_speed;
```

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

6.2 Missing data periods

Please see the chapter 9.0.

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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Ma, Yaoming, O. Tsukamoto，H. Ishikawa, Z. Su, M. Menenti, J. Wang and J. Wen, 2002: Determination of regional land surface heat flux densities over heterogeneous landscape of HEIFE integrating satellite remote sensing with field observations, Jour. Meteorol. Soc. Japan, 80(3), 485-501.

K. Tanaka, I. Tamagawa, H. Ishikawa, Y. Ma and Z. Hu, 2003: Surface energy and closure of the eastern Tibetan Plateau during the GAME-Tibet IOP 1998, J. Hydrology, vol. 283, pp. 169-183

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Ueno, K., H. Fujii, H. Yamada and L. Liu, （2001） Weak and Frequent Monsoon Precipitation over the Tibetan Plateau. J. Meteor. Soc. Japan, 79, 1B, 419-434.

9.0 Missing data periods

2003/07/04 19:00 - 2003/07/08 06:00 (84)

TITLE

CAMP_Tibet_BJ-SAWS3_20031001_20041231.sfc

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DATE OF THIS DOCUMENT

7 July. 2006
Updated 07 October 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 : 31.37137 N
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U,V Components were computed by using (GEMPAK):
U = -sin(direction) * wind_speed;
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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 observed wind direction data after 1 July 2004 was abnormal value. We calculated the correct value by using next equation for each period. These corrected data flag were put “I”.
From 2004/07/01 01:40 (UTC) to 2004/07/02 06:20 (UTC)
New value = Original value + 90 deg.
From 2004/07/01 06:30 (UTC) to 2004/12/31 23:30 (UTC)
New value = Original value + 180 deg.

6.2 Missing data periods

Please see the chapter 9.0.

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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K. Tanaka and H. Ishikawa, 2001: Long term monitoring of surface energy fluxes of the Amdo PBL site in the eastern Tibetan Plateau, Proceedings of the Fifth International Study Conference on GEWEX in Asia and GAME, 384-388.

Ueno, K., H. Fujii, H. Yamada and L. Liu, （2001） Weak and Frequent Monsoon Precipitation over the Tibetan Plateau. J. Meteor. Soc. Japan, 79, 1B, 419-434.

9.0 Missing data periods

None