

## TITLE

CAMP\_Tibet\_Amdo-Tower\_20021001\_20030331.twr

## CONTACT

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## DATE OF THIS DOCUMENT

02 Sep. 2004 (Updated 23 June 2006)

## 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 recorded every hour.

## 1.4 Physical location of the measurement

Latitude : 32.24096 N

Longitude : 91.62493 E

Elevation : 4695.2 m a.s.l.

Landscape : Bare land (with the thin weed-like plant)

Canopy height : Less than 5cm.

Soil Characteristics: Silt loam

## 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

The AWS was constructed in summer 1997, and started continuous observation in May 1998. The site is located in the wide valley running from northeast to southwest, in the middle of the Tibetan Plateau. The AWS is consisted of the 14-m boundary layer tower and the 4-component radiation system. The sensors are mounted on several heights.

### 2.2 Description of the instrumentation

Parameter	Model	Manufacturer
Station Pressure	DPA21	VAISALA
Air Temperature	HMP35D(Pt 100)	VAISALA
Relative Humidity	Electric Capacitance	ibid
Wind Speed	aerobane FF-11	OGASAWARA
Wind Direction	Aerobane FF-11	OGASAWARA

### 2.3 Instrumentation specification

Station Pressure (1.0m) : Station Pressure at the 1.0m height (hPa)  
Air Temperature (13.75m) : Air Temperature at the 13.75m height (deg.C)  
Air Temperature (5.65m) : Air Temperature at the 5.65m height (deg.C)  
Air Temperature (1.55m) : Air Temperature at the 1.55m height (deg.C)  
Relative Humidity (13.75m) : Relative Humidity at the 13.75m height (%)  
Relative Humidity (5.65m) : Relative Humidity at the 5.65m height (%)  
Relative Humidity (1.55m) : Relative Humidity at the 1.55m height (%)  
Wind Speed (14.1m) : Wind Speed at the 14.1m height (m/s)  
Wind Speed (6.0m) : Wind Speed at the 6.0m height (m/s)

Wind Speed (1.9m) : Wind Speed at the 1.9m height (m/s)  
Wind Direction (14.1m) : Wind Direction at the 14.1m height (deg.)

### **3.0 DATA COLLECTION AND PROCESSING**

#### **3.1 Description of data collection**

Original data are sampled at every 1 second (1.0Hz) and 10-minute average is computed and stored in a data logger (VAISALA MLoS500).  
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**

Air Temperature, relative humidity, Wind speed and Wind direction averaged over the previous hour. Air pressure is instantaneous values of each 1 hour.

And the one parameters indicated below were computed by using "CEOP Derived Parameter Equations : [http://www.joss.ucar.edu/ghp/ceopdm/refdata\\_report/eqns.html](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):

$$U = -\sin(\text{direction}) * \text{wind\_speed};$$

$$V = -\cos(\text{direction}) * \text{wind\_speed};$$

### **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\_Amdo-Tower\_20030401\_20030904.twr

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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 recorded every hour.

### 1.10 Physical location of the measurement

Latitude : 32.24096 N  
Longitude : 91.62493 E  
Elevation : 4695.2 m a.s.l.  
Landscape : Bare land (with the thin weed-like plant)  
Canopy height : Less than 5cm.  
Soil Characteristics: Silt loam

### 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 AWS was constructed in summer 1997, and started continuous observation in May 1998. The site is located in the wide valley running from northeast to southwest, in the middle of the Tibetan Plateau. The AWS is consisted of the 14-m boundary layer tower and the 4-component radiation system. The sensors are mounted on several heights.

### 2.2 Description of the instrumentation

Parameter	Model	Manufacturer
Station Pressure	DPA21	VAISALA
Air Temperature	HMP35D(Pt 100)	VAISALA
Relative Humidity	Electric Capacitance	ibid
Wind Speed	aerobane FF-11	OGASAWARA
Wind Direction	Aerobane FF-11	OGASAWARA

### 2.4 Instrumentation specification

Station Pressure (1.0m) : Station Pressure at the 1.0m height (hPa)  
Air Temperature (14.0m) : Air Temperature at the 14.0m height (deg.C)  
Air Temperature (6.0m) : Air Temperature at the 6.0m height (deg.C)  
Air Temperature (1.5m) : Air Temperature at the 1.5m height (deg.C)  
Relative Humidity (14.0m) : Relative Humidity at the 14.0m height (%)  
Relative Humidity (6.0m) : Relative Humidity at the 6.0m height (%)  
Relative Humidity (1.5m) : Relative Humidity at the 1.5m height (%)  
Wind Speed (14.0m) : Wind Speed at the 14.0m height (m/s)  
Wind Speed (6.0m) : Wind Speed at the 6.0m height (m/s)  
Wind Speed (2.0m) : Wind Speed at the 2.0m height (m/s)  
Wind Direction (14.0m) : Wind Direction at the 14.0m height (deg.)

### **3.0 DATA COLLECTION AND PROCESSING**

#### **3.1 Description of data collection**

Original data are sampled at every 1 second (1.0Hz) and 10-minute average is computed and stored in a data logger (VAISALA MILoS500).

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**

Air Temperature, relative humidity, Wind speed and Wind direction averaged over the previous hour. Air pressure is instantaneous values of each 1 hour.

And the one parameters indicated below were computed by using "CEOP Derived Parameter Equations : [http://www.joss.ucar.edu/ghp/ceopdm/refdata\\_report/eqns.html](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):

$$U = -\sin(\text{direction}) * \text{wind\_speed};$$

$$V = -\cos(\text{direction}) * \text{wind\_speed};$$

### **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

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.

## 9.0 Missing data periods

2003/04/02 00:00 - 2003/04/02 01:00 (2)  
2003/04/21 02:00 - 2003/04/21 15:00 (14)  
2003/05/30 04:00  
2003/09/04 13:00 - 2003/09/04 23:00 (11)



## TITLE

CAMP\_Tibet\_Amdo-Tower\_20040421\_20041231.twr

## CONTACT

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## DATE OF THIS DOCUMENT

7 July, 2006

Updated 07 October 2006

## 1. 0 DATASET OVERVIEW

### 1.13 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.

#### 1.14 Time period covered by the data

Start: 21 April 2004, 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 : 32.24096 N  
Longitude : 91.62493 E  
Elevation : 4695.2 m a.s.l.  
Landscape : Bare land (with the thin weed-like plant)  
Canopy height : Less than 5cm.  
Soil Characteristics: Silt loam

#### 1.17 Data source

#### 1.18 Website address references

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

## 2.0 INSTRUMENTATION DESCRIPTION

### 2.1 Platform

The AWS was constructed in summer 1997, and started continuous observation in May 1998. The site is located in the wide valley running from northeast to southwest, in the middle of the Tibetan Plateau. The AWS is consisted of the 14-m boundary layer tower and the 4-component radiation system. The sensors are mounted on several heights.

### 2.2 Description of the instrumentation

Parameter	Model	Manufacturer
Station Pressure	DPA21	VAISALA
Air Temperature	HMP35D(Pt 100)	VAISALA
Relative Humidity	Electric Capacitance	ibid
Wind Speed	aerobane FF-11	OGASAWARA
Wind Direction	Aerobane FF-11	OGASAWARA

### 2.5 Instrumentation specification

Station Pressure (1.0m) : Station Pressure at the 1.0m height (hPa)  
Air Temperature (13.75m) : Air Temperature at the 13.75m height (deg.C)  
Air Temperature (5.65m) : Air Temperature at the 5.65m height (deg.C)  
Air Temperature (1.55m) : Air Temperature at the 1.55m height (deg.C)  
Relative Humidity (13.75m) : Relative Humidity at the 13.75m height (%)  
Relative Humidity (5.65m) : Relative Humidity at the 5.65m height (%)  
Relative Humidity (1.55m) : Relative Humidity at the 1.55m height (%)  
Wind Speed (14.1m) : Wind Speed at the 14.1m height (m/s)  
Wind Speed (6.0m) : Wind Speed at the 6.0m height (m/s)

Wind Speed (1.9m) : Wind Speed at the 1.9m height (m/s)  
Wind Direction (14.1m) : Wind Direction at the 14.1m height (deg.)

### **3.0 DATA COLLECTION AND PROCESSING**

#### **3.1 Description of data collection**

Original data are sampled at every 1 second (1.0Hz) and 10-minute average is computed and stored in a data logger (VAISALA MILoS500).  
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**

Air Temperature, relative humidity, Wind speed and Wind direction averaged over the previous hour. Air pressure is instantaneous values of each 1 hour.

And the one parameters indicated below were computed by using "CEOP Derived Parameter Equations : [http://www.joss.ucar.edu/ghp/ceopdm/refdata\\_report/eqns.html](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):

$$U = -\sin(\text{direction}) * \text{wind\_speed};$$

$$V = -\cos(\text{direction}) * \text{wind\_speed};$$

### **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**

The wind direction data was pretty constant from October to December 2004. Then these data flag was put as follows.

"D" flag was put from 2004/10/02 - 2004/10/03, because the constant activity of wind direction 0 degree in a few hours.

"B" flag was put from 2004/10/04 - 2004/12/31, because the constant activity of wind direction around 80 degree for long time.

## 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

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

-----  
File Name : CAMP\_Tibet\_Amdo-Tower\_20040421\_20041231.twr  
Data Period : 2004/04/21 00:00 - 2004/12/31 23:00  
-----

Station Pressure (1.55m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)

Station Pressure (1.90m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)

Station Pressure (5.65m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)

Station Pressure (6.00m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)

Station Pressure (13.75m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)

Station Pressure (14.10m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)

Air Temperature (1.55m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)

Air Temperature (1.90m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Air Temperature (5.65m)  
2004/04/21 00:00 - 2004/08/12 06:00 (2719)  
2004/08/12 08:00  
2004/08/20 03:00  
2004/12/30 14:00 - 2004/12/30 16:00 (3)

Air Temperature (6.00m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Air Temperature (13.75m)  
2004/04/21 00:00 - 2004/08/12 08:00 (2721)  
2004/09/29 05:00  
2004/10/10 04:00  
2004/10/10 20:00 - 2004/10/10 21:00 (2)  
2004/10/12 03:00  
2004/10/12 13:00 - 2004/10/12 15:00 (3)  
2004/10/12 18:00 - 2004/10/12 20:00 (3)  
2004/10/12 23:00 - 2004/10/13 01:00 (3)  
2004/10/18 03:00  
2004/11/18 05:00 - 2004/11/18 07:00 (3)  
2004/11/22 04:00  
2004/11/23 05:00 - 2004/11/23 06:00 (2)  
2004/11/23 09:00  
2004/11/24 05:00 - 2004/11/24 06:00 (2)  
2004/11/26 11:00  
2004/11/27 06:00 - 2004/11/27 07:00 (2)  
2004/11/28 05:00  
2004/11/29 04:00 - 2004/11/29 05:00 (2)  
2004/11/30 05:00  
2004/11/30 08:00  
2004/12/01 04:00  
2004/12/02 04:00 - 2004/12/02 06:00 (3)  
2004/12/02 08:00  
2004/12/04 14:00 - 2004/12/04 15:00 (2)  
2004/12/08 04:00  
2004/12/09 13:00  
2004/12/11 09:00 - 2004/12/11 11:00 (3)

2004/12/12 06:00 - 2004/12/12 09:00 (4)  
2004/12/13 03:00  
2004/12/14 06:00  
2004/12/14 09:00 - 2004/12/14 10:00 (2)  
2004/12/15 03:00 - 2004/12/15 09:00 (7)  
2004/12/15 11:00 - 2004/12/15 12:00 (2)  
2004/12/16 05:00  
2004/12/16 09:00  
2004/12/17 04:00  
2004/12/18 12:00 - 2004/12/18 14:00 (3)  
2004/12/31 04:00

Air Temperature (14.10m)

2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Dew Point Temperature (1.55m)

2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Dew Point Temperature (1.90m)

2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Dew Point Temperature (5.65m)

2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Dew Point Temperature (6.00m)

2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Dew Point Temperature (13.75m)

2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Dew Point Temperature (14.10m)

2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Relative Humidity (1.55m)

2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/04/28 11:00 - 2004/04/28 15:00 (5)  
2004/04/28 17:00 - 2004/04/28 18:00 (2)  
2004/04/28 22:00 - 2004/04/29 03:00 (6)  
2004/04/30 01:00  
2004/05/22 20:00  
2004/05/23 04:00  
2004/05/23 09:00  
2004/05/24 19:00 - 2004/05/24 22:00 (4)  
2004/05/26 19:00 - 2004/05/27 00:00 (6)  
2004/05/28 17:00 - 2004/05/28 19:00 (3)  
2004/05/29 05:00 - 2004/05/29 06:00 (2)  
2004/05/29 16:00  
2004/05/29 20:00 - 2004/05/29 21:00 (2)  
2004/05/31 14:00  
2004/06/01 14:00 - 2004/06/02 00:00 (11)  
2004/06/07 23:00 - 2004/06/08 01:00 (3)  
2004/06/09 20:00 - 2004/08/12 07:00 (1524)  
2004/09/17 23:00 - 2004/09/18 01:00 (3)  
2004/09/19 02:00  
2004/09/20 18:00  
2004/10/01 21:00 - 2004/10/01 23:00 (3)  
2004/10/02 17:00 - 2004/10/02 22:00 (6)  
2004/10/07 23:00

Relative Humidity (1.90m)

2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Relative Humidity (5.65m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)

Relative Humidity (6.00m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Relative Humidity (13.75m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)

Relative Humidity (14.10m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Specific Humidity (1.55m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/04/28 11:00 - 2004/04/28 15:00 (5)  
2004/04/28 17:00 - 2004/04/28 18:00 (2)  
2004/04/28 22:00 - 2004/04/29 03:00 (6)  
2004/04/30 01:00  
2004/05/22 20:00  
2004/05/23 04:00  
2004/05/23 09:00  
2004/05/24 19:00 - 2004/05/24 22:00 (4)  
2004/05/26 19:00 - 2004/05/27 00:00 (6)  
2004/05/28 17:00 - 2004/05/28 19:00 (3)  
2004/05/29 05:00 - 2004/05/29 06:00 (2)  
2004/05/29 16:00  
2004/05/29 20:00 - 2004/05/29 21:00 (2)  
2004/05/31 14:00  
2004/06/01 14:00 - 2004/06/02 00:00 (11)  
2004/06/07 23:00 - 2004/06/08 01:00 (3)  
2004/06/09 20:00 - 2004/08/12 07:00 (1524)  
2004/09/17 23:00 - 2004/09/18 01:00 (3)  
2004/09/19 02:00  
2004/09/20 18:00  
2004/10/01 21:00 - 2004/10/01 23:00 (3)  
2004/10/02 17:00 - 2004/10/02 22:00 (6)  
2004/10/07 23:00

Specific Humidity (1.90m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Specific Humidity (5.65m)  
2004/04/21 00:00 - 2004/08/12 08:00 (2721)  
2004/08/20 03:00  
2004/09/17 22:00  
2004/09/18 00:00 - 2004/09/18 01:00 (2)  
2004/09/18 03:00  
2004/09/18 15:00  
2004/09/19 22:00 - 2004/09/20 01:00 (4)  
2004/09/20 18:00 - 2004/09/21 05:00 (12)  
2004/09/21 22:00 - 2004/09/22 03:00 (6)  
2004/09/22 18:00  
2004/10/01 20:00 - 2004/10/01 23:00 (4)  
2004/10/02 11:00 - 2004/10/02 12:00 (2)  
2004/10/02 16:00 - 2004/10/03 01:00 (10)  
2004/10/03 03:00  
2004/10/07 22:00 - 2004/10/08 02:00 (5)  
2004/10/08 20:00

2004/10/14 14:00 - 2004/10/14 17:00 (4)  
2004/12/30 14:00 - 2004/12/30 16:00 (3)

Specific Humidity (6.00m)

2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Specific Humidity (13.75m)

2004/04/21 00:00 - 2004/08/12 08:00 (2721)  
2004/09/18 00:00 - 2004/09/18 01:00 (2)  
2004/09/19 02:00  
2004/09/20 18:00  
2004/09/29 05:00  
2004/10/01 21:00 - 2004/10/01 22:00 (2)  
2004/10/02 17:00 - 2004/10/02 22:00 (6)  
2004/10/10 04:00  
2004/10/10 20:00 - 2004/10/10 21:00 (2)  
2004/10/12 03:00  
2004/10/12 13:00 - 2004/10/12 15:00 (3)  
2004/10/12 18:00 - 2004/10/12 20:00 (3)  
2004/10/12 23:00 - 2004/10/13 01:00 (3)  
2004/10/18 03:00  
2004/11/18 05:00 - 2004/11/18 07:00 (3)  
2004/11/22 04:00  
2004/11/23 05:00 - 2004/11/23 06:00 (2)  
2004/11/23 09:00  
2004/11/24 05:00 - 2004/11/24 06:00 (2)  
2004/11/26 11:00  
2004/11/27 06:00 - 2004/11/27 07:00 (2)  
2004/11/28 05:00  
2004/11/29 04:00 - 2004/11/29 05:00 (2)  
2004/11/30 05:00  
2004/11/30 08:00  
2004/12/01 04:00  
2004/12/02 04:00 - 2004/12/02 06:00 (3)  
2004/12/02 08:00  
2004/12/04 14:00 - 2004/12/04 15:00 (2)  
2004/12/08 04:00  
2004/12/09 13:00  
2004/12/11 09:00 - 2004/12/11 11:00 (3)  
2004/12/12 06:00 - 2004/12/12 09:00 (4)  
2004/12/13 03:00  
2004/12/14 06:00  
2004/12/14 09:00 - 2004/12/14 10:00 (2)  
2004/12/15 03:00 - 2004/12/15 09:00 (7)  
2004/12/15 11:00 - 2004/12/15 12:00 (2)  
2004/12/16 05:00  
2004/12/16 09:00  
2004/12/17 04:00  
2004/12/18 12:00 - 2004/12/18 14:00 (3)  
2004/12/31 04:00

Specific Humidity (14.10m)

2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Wind Speed (1.55m)

2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Wind Speed (1.90m)

2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 07:00 (1521)



Wind Speed (5.65m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Wind Speed (6.00m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)

Wind Speed (13.75m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Wind Speed (14.10m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)  
2004/10/04 10:00 - 2004/12/31 23:00 (2126)

Wind Direction (1.55m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Wind Direction (1.90m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Wind Direction (5.65m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Wind Direction (6.00m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Wind Direction (13.75m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

Wind Direction (14.10m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)  
2004/10/04 10:00 - 2004/12/31 23:00 (2126)

U Wind Component (1.55m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

U Wind Component (1.90m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

U Wind Component (5.65m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

U Wind Component (6.00m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

U Wind Component (13.75m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

U Wind Component (14.10m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)  
2004/10/04 10:00 - 2004/12/31 23:00 (2126)

V Wind Component (1.55m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

V Wind Component (1.90m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

V Wind Component (5.65m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

V Wind Component (6.00m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

V Wind Component (13.75m)  
2004/04/21 00:00 - 2004/12/31 23:00 (ALL)

V Wind Component (14.10m)  
2004/04/21 00:00 - 2004/04/21 06:00 (7)  
2004/06/09 23:00 - 2004/08/12 06:00 (1520)  
2004/10/04 10:00 - 2004/12/31 23:00 (2126)