

## TITLE

CAMP\_W-PacificOcean\_Aimeliik\_20040312\_20041231.sfc

## CONTACT

Ryuichi Shirooka  
Japan Agency for Marine-Earth Science and Technology  
Institute of Observational Research for Global Change  
2-15 Natsushima-cho, Yokosuka, 237-0061, JAPAN  
TEL: +81-46-867-9821  
FAX: +81-46-867-9255  
E-mail: shiro@jamstec.go.jp

Tomoki Ushiyama  
Japan Agency for Marine-Earth Science and Technology  
Institute of Observational Research for Global Change  
2-15 Natsushima-cho, Yokosuka, 237-0061, JAPAN  
TEL: +81-46-867-9285  
FAX: +81-46-867-9255  
E-mail: ushi@jamstec.go.jp

## DATE OF THIS DOCUMENT

3 July 2006

## 1. 0 DATASET OVERVIEW

### 1.1 Introduction

The western tropical Pacific is a key area for global climate systems especially on ENSO (El Nino Southern Oscillation) events. To understand the mechanism of clouds-precipitation processes and air-sea interactions over the warm water pool in the tropical region, IROGC (former FORSGC) conducted continuous surface weather observation since 2000 around the Republic of Palau.

### 1.2 Time period covered by the data

Start: 12 March 2004, 00:00  
End: 31 December 2004, 23:30

### 1.3 Temporal characteristics of the data

Original data were recorded every 10 second. These data were averaged every 30 minutes.

### 1.4 Physical location of the measurement

Latitude: 7.45194 N  
Longitude: 134.47639 E

Elevation: 40.00 m a.s.l.  
 Landscape : Gravel  
 Canopy height : none  
 Soil Characteristics: Gravel

### 1.5 Data source

Original data provided by the Institute of Observational Research for Global Change (IORGC), Japan Agency for Marine-Earth Science and Technology (JAMSTEC).

### 1.6 WWW address references

## 2.0 INSTRUMENTATION DESCRIPTION

### 2.1 Platform

The sensors are mounted on 1.5-m and 2-m height arms and a 4-m height mast.

### 2.2 Description of the instrumentation

Parameter	Model	Manufacturer
Air Temperature	HMP45D	VAISALA
Relative Humidity	HMP45D	VAISALA
Wind Speed	CYG5130M	YOUNG aerovane
Wind Direction	CYG5130M	YOUNG aerovane
Atmospheric Pressure	PTB210	VAISALA
Precipitation	MW010	
Solar Radiation	MS402	EIKO

### 2.3 Instrumentation specification

Parameter	Sensor Type	Height of sensor (m)	Accuracy	Resolution
Air Temperature	Resistive platinum 100 Ω	1.5	0.3°C	0.1°C
Relative Humidity	Capacitive thin film polymer	1.5	2% (0-90%); 3% (90-100%)	1%
Wind Speed	propeller	4.0	0.3 m/s (<10m/s);	0.1 m/s
Wind Direction	Vane	4.0	3°	1°
Atmospheric Pressure	Silicon capacitive pressure sensor	1.0	0.3 hPa	0.1 hPa
Precipitation	Tipping bucket	0.5		0.5 mm
Solar Radiation		2.0		

## 3.0 DATA COLLECTION AND PROCESSING

### 3.1 Description of data collection

The observed data are recorded on the on-site PC.

These data are checked through a telephone line from Japan, and collected every 3 month.

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

Temperature, relative humidity, Air pressure, Solar radiation, Wind speed and direction are instantaneous values. Precipitation is accumulated on the previous minute.

Original data was recorded by every 10 seconds.  
The quality control was carried out for the 10 minutes averaged data.  
Finally data was averaged for 30 minutes.

And the three 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",

Dew Point Temperature (0.5m) were computed by using (Bolton 1980):

$$es = 6.112 * \exp((17.67 * T)/(T + 243.5));$$
$$e = es * (RH/100.0);$$
$$Td = \log(e/6.112)*243.5/(17.67-\log(e/6.112));$$

where:

- T = temperature in deg C;
- es = saturation vapor pressure in mb;
- e = vapor pressure in mb;
- RH = Relative Humidity in percent;
- Td = dew point in deg C

Specific Humidity (0.5m) were computed by using (Bolton 1980):

$$e = 6.112 * \exp((17.67 * Td)/(Td + 243.5));$$
$$q = (0.622 * e)/(p - (0.378 * e));$$

where:

- e = vapor pressure in mb;
- Td = dew point in deg C;
- p = surface pressure in mb;
- q = specific humidity in kg/kg.

U,V Components (4.6m) were computed by using (GEMPAK):

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

## **4.0 QUALITY CONTROL PROCEDURES**

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 Interface.

## **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

The missing data period are listed in chapter 9.0.

## 7.0 REFERENCE REQUIREMENTS

Please include the following 'credit line' in the acknowledgments of your publication:

"Original data was collected and is provided by Institute of Observational Research for Global Change (IORGC), Japan Agency for Marine-Earth Science and Technology (JAMSTEC)."

## 8.0 REFERENCES

Kubota, H., R. Shirooka, T. Ushiyama, J. Chen, T. Chuda, S. Iwasaki and K. Takeuchi, (2002): Seasonal variability observed at Palau over western Pacific and water vapor variation observed prior to the large-scale convective activity, Western Pacific Geophysical Meeting Abstracts, AGU, WP8-WP9.

## 9.0 Missing Data Periods

-----  
File Name : CAMP\_W-PacificOcean\_Aimeliik\_20040312\_20041231.sfc  
Data Period : 2004/03/12 00:00 - 2004/12/31 23:30  
-----

### Station Pressure

2004/06/15 20:30 - 2004/06/22 14:30 (325)  
2004/11/10 01:30  
2004/11/13 12:30  
2004/11/14 14:00 - 2004/11/14 14:30 (2)  
2004/11/17 14:00  
2004/11/19 19:30 - 2004/11/19 21:30 (5)  
2004/11/25 08:00 - 2004/11/25 09:00 (3)  
2004/11/25 23:30 - 2004/11/26 00:00 (2)  
2004/11/26 01:30 - 2004/11/26 02:30 (3)  
2004/11/26 04:00 - 2004/11/26 05:00 (3)  
2004/11/26 09:00

2004/11/26 10:00 - 2004/11/26 10:30 (2)  
2004/11/26 11:30 - 2004/11/26 12:30 (3)  
2004/11/26 13:30 - 2004/11/26 16:00 (6)  
2004/11/26 17:00 - 2004/11/26 17:30 (2)  
2004/11/26 19:00 - 2004/11/27 07:00 (25)  
2004/11/27 08:00  
2004/11/27 09:00 - 2004/11/27 10:30 (4)  
2004/11/27 11:30 - 2004/11/27 22:00 (22)  
2004/11/27 23:00 - 2004/11/27 23:30 (2)  
2004/11/28 01:00 - 2004/11/28 01:30 (2)  
2004/11/28 02:30 - 2004/11/28 07:00 (10)  
2004/11/28 08:00 - 2004/11/28 13:00 (11)  
2004/11/28 14:00 - 2004/11/29 02:30 (26)  
2004/11/29 03:30 - 2004/11/29 04:30 (3)  
2004/11/29 13:30  
2004/11/29 15:00 - 2004/11/29 15:30 (2)  
2004/11/29 16:30 - 2004/11/29 19:00 (6)  
2004/11/29 20:00 - 2004/11/29 22:30 (6)  
2004/11/29 23:30 - 2004/11/30 00:30 (3)  
2004/11/30 01:30 - 2004/11/30 14:30 (27)  
2004/11/30 16:30 - 2004/11/30 17:30 (3)  
2004/11/30 19:00  
2004/12/01 03:00 - 2004/12/01 06:00 (7)  
2004/12/01 07:00  
2004/12/01 08:00 - 2004/12/01 08:30 (2)  
2004/12/01 11:00 - 2004/12/01 13:00 (5)  
2004/12/02 04:30 - 2004/12/02 05:30 (3)  
2004/12/02 08:00 - 2004/12/02 09:30 (4)  
2004/12/02 10:30 - 2004/12/03 03:30 (35)  
2004/12/03 08:30  
2004/12/03 10:30  
2004/12/03 12:30 - 2004/12/03 14:00 (4)  
2004/12/03 19:00 - 2004/12/03 23:00 (9)  
2004/12/04 01:30  
2004/12/04 03:00 - 2004/12/05 13:00 (69)  
2004/12/06 00:00 - 2004/12/06 02:30 (6)  
2004/12/06 03:30 - 2004/12/06 10:00 (14)  
2004/12/06 11:00 - 2004/12/06 12:30 (4)  
2004/12/06 13:30 - 2004/12/07 08:30 (39)  
2004/12/07 11:30 - 2004/12/07 15:30 (9)  
2004/12/07 16:30 - 2004/12/07 20:00 (8)  
2004/12/07 21:00 - 2004/12/07 21:30 (2)  
2004/12/07 23:00  
2004/12/08 01:30  
2004/12/08 02:30 - 2004/12/08 05:00 (6)  
2004/12/08 06:30  
2004/12/08 08:30  
2004/12/08 13:30  
2004/12/08 14:30 - 2004/12/08 20:00 (12)  
2004/12/08 21:00 - 2004/12/09 02:00 (11)  
2004/12/09 04:00 - 2004/12/09 14:00 (21)

2004/12/09 16:00 - 2004/12/10 01:00 (19)  
2004/12/10 02:00 - 2004/12/10 02:30 (2)  
2004/12/10 03:30 - 2004/12/10 05:30 (5)  
2004/12/10 06:30 - 2004/12/10 23:30 (35)  
2004/12/11 01:00  
2004/12/11 02:30 - 2004/12/11 06:00 (8)  
2004/12/11 07:00 - 2004/12/11 10:00 (7)  
2004/12/11 12:00 - 2004/12/11 12:30 (2)  
2004/12/11 17:30 - 2004/12/11 19:00 (4)  
2004/12/11 20:00 - 2004/12/11 22:30 (6)  
2004/12/12 00:00 - 2004/12/12 03:30 (8)  
2004/12/12 04:30 - 2004/12/12 05:30 (3)  
2004/12/12 07:00 - 2004/12/12 10:30 (8)  
2004/12/12 11:30  
2004/12/12 12:30 - 2004/12/12 19:00 (14)  
2004/12/12 20:00  
2004/12/12 21:00 - 2004/12/12 23:30 (6)  
2004/12/13 02:30  
2004/12/13 07:00 - 2004/12/13 07:30 (2)  
2004/12/14 05:00  
2004/12/14 06:30 - 2004/12/14 07:00 (2)  
2004/12/14 09:00 - 2004/12/14 15:30 (14)  
2004/12/14 16:30 - 2004/12/14 18:30 (5)  
2004/12/14 19:30 - 2004/12/14 20:30 (3)  
2004/12/14 22:00 - 2004/12/14 22:30 (2)  
2004/12/15 01:00  
2004/12/15 04:30  
2004/12/15 05:30 - 2004/12/15 06:30 (3)  
2004/12/15 08:00 - 2004/12/15 08:30 (2)  
2004/12/15 09:30 - 2004/12/15 11:00 (4)  
2004/12/15 12:00 - 2004/12/15 23:00 (23)  
2004/12/16 00:00 - 2004/12/16 01:30 (4)  
2004/12/16 02:30 - 2004/12/16 04:00 (4)  
2004/12/16 05:00  
2004/12/16 12:00 - 2004/12/16 13:00 (3)  
2004/12/16 16:30  
2004/12/16 18:00 - 2004/12/16 20:00 (5)  
2004/12/17 00:00

#### Air Temperature

2004/06/15 20:30 - 2004/06/22 14:30 (325)  
2004/11/27 21:00 - 2004/11/27 22:00 (3)

#### Dew Point Temperature

2004/06/15 20:30 - 2004/06/22 14:30 (325)  
2004/11/27 21:00 - 2004/11/27 22:00 (3)

#### Relative Humidity

2004/06/15 20:30 - 2004/06/22 14:30 (325)

#### Specific Humidity

2004/06/15 20:30 - 2004/06/22 14:30 (325)  
2004/07/01 00:30 - 2004/12/31 23:30 (8831)

Wind Speed

2004/06/15 20:30 - 2004/06/22 14:30 (325)

Wind Direction

2004/06/15 20:30 - 2004/06/22 14:30 (325)

U Wind Component

2004/06/15 20:30 - 2004/06/22 14:30 (325)

V Wind Component

2004/06/15 20:30 - 2004/06/22 14:30 (325)

Precipitation

2004/06/15 20:30 - 2004/06/22 14:30 (325)

Snow Depth

2004/03/12 00:00 - 2004/12/31 23:30 (ALL)

Incoming Shortwave

2004/06/15 20:30 - 2004/06/22 14:30 (325)

Outgoing Shortwave

2004/03/12 00:00 - 2004/12/31 23:30 (ALL)

Incoming Longwave

2004/03/12 00:00 - 2004/12/31 23:30 (ALL)

Outgoing Longwave

2004/03/12 00:00 - 2004/12/31 23:30 (ALL)

Net Radiation

2004/03/12 00:00 - 2004/12/31 23:30 (ALL)

Skin Temperature

2004/03/12 00:00 - 2004/12/31 23:30 (ALL)

Incoming PAR

2004/03/12 00:00 - 2004/12/31 23:30 (ALL)

Outgoing PAR

2004/03/12 00:00 - 2004/12/31 23:30 (ALL)