

TITLE

CAMP_W-PacificOcean_Peleliu_20021129_20041231.sfc_r.doc

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DATE OF THIS DOCUMENT

3 July 2006
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1. 0 DATASET OVERVIEW

1.1 Introduction

The western tropical Pacific is a key area for global climate systems especially on ENSO (El Niño 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: 27 February 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: 7.04139 N

Longitude: 134.26861 E
 Elevation: 2.00 m a.s.l.
 Landscape : Grassland
 Canopy height : About 10 cm
 Soil Characteristics: Coral sand

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 1.65-m height arms and a 6-m height mast.

2.2 Description of the instrumentation

Parameter	Model	Manufacturer
Air Temperature	HMP45D	VAISALA
Relative Humidity	HMP45D	VAISALA
Wind Speed	CYG5103M	YOUNG aerovane
Wind Direction	CYG5103M	YOUNG aerovane
Atmospheric Pressure	HD9408T	YOUNG
Precipitation	CYT-50202	YOUNG siphon raingauge
Shortwave radiation	PSP	Eppley Labs
Longwave radiation	PIR	Eppley Labs

2.3 Instrumentation specification

Parameter	Sensor Type	Height of sensor (m)	Accuracy	Resolution
Air Temperature	Resistive platinum 100Ω	1.65	0.3°C	0.1°C
Relative Humidity	Capacitive thin film polymer	1.65	2% (0-90%); 3% (90-100%)	1%
Wind Speed	Propeller	6.0	0.3 m/s (<10m/s);	0.1 m/s
Wind Direction	Vane	6.0	3°	1°
Atmospheric Pressure	Piezo	1.0	0.4 hPa	0.1 hPa
Precipitation	Capacitance	1.5	+/- 2mm	0.1 mm
Shortwave Radiation		6.0		
Longwave Radiation	Thermistor	6.0		

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, Shortwave radiation, Longwave 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" .
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

6.1.2 Quality issues

During Phase 1 (Oct. 2002 to Dec. 2004) it seems that pressure data correction had not been performed. We had checked the pressure data by comparing a portable instrument in June 2004 and found that station pressure has 3.4~3.5hPa higher value. So we removed this value as a bias on Phase 1 data.

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, T. Chuda, S. Iwasaki and K. Takeuchi, (2005): Seasonal variations of precipitation properties associated with monsoon over Palau in the western Pacific, J. Hydrometeor., 6, 518-531.

9.0 Missing Data Periods

File Name : CAMP_W-PacificOcean_Peleliu_20021129_20041231.sfc
Data Period : 2002/11/29 07:30 - 2004/12/31 23:30

Station Pressure

2002/11/29 07:30 - 2002/12/09 02:00 (470)
2003/03/05 09:30 - 2003/03/09 08:30 (191)
2003/04/04 11:00 - 2003/04/07 05:30 (134)
2003/06/25 07:00 - 2003/06/25 07:30 (2)
2003/06/25 09:00

2003/09/18 01:30 - 2003/09/18 04:30 (7)
2003/11/06 22:00 - 2003/11/10 03:00 (155)
2003/11/22 05:00 - 2003/11/24 05:00 (97)
2004/02/27 05:00 - 2004/02/27 05:30 (2)
2004/03/13 07:30 - 2004/03/13 09:00 (4)
2004/03/14 02:00
2004/05/02 20:00 - 2004/05/13 07:30 (504)
2004/05/25 01:00 - 2004/05/25 02:00 (3)
2004/06/14 20:00 - 2004/06/22 02:00 (349)
2004/06/22 03:00 - 2004/06/22 07:30 (10)
2004/06/22 09:30 - 2004/06/22 23:30 (29)
2004/06/23 00:30 - 2004/06/23 01:30 (3)
2004/06/24 01:00 - 2004/06/24 02:00 (3)
2004/06/24 05:30
2004/06/30 07:00 - 2004/08/08 09:00 (1877)
2004/11/16 11:00 - 2004/11/25 00:30 (412)
2004/12/01 03:30 - 2004/12/11 07:30 (489)
2004/12/12 08:00
2004/12/13 01:00 - 2004/12/13 07:00 (13)

Air Temperature

2002/11/29 07:30 - 2002/12/09 02:00 (470)
2003/03/05 09:30 - 2003/03/09 08:30 (191)
2003/04/04 11:00 - 2003/04/07 05:30 (134)
2003/06/25 07:00 - 2003/06/25 07:30 (2)
2003/06/25 09:00
2003/09/18 01:30 - 2003/09/18 04:30 (7)
2003/11/06 22:00 - 2003/11/10 03:00 (155)
2003/11/22 05:00 - 2003/11/24 05:00 (97)
2004/02/27 05:00 - 2004/02/27 05:30 (2)
2004/03/13 07:30 - 2004/03/13 09:00 (4)
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2004/05/02 20:00 - 2004/05/13 07:30 (504)
2004/05/25 01:00 - 2004/05/25 02:00 (3)
2004/06/14 20:00 - 2004/06/22 02:00 (349)
2004/06/22 03:00 - 2004/06/22 07:30 (10)
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2004/06/30 07:00 - 2004/08/08 09:00 (1877)
2004/11/16 11:00 - 2004/11/25 00:30 (412)
2004/12/01 03:30 - 2004/12/11 07:30 (489)
2004/12/12 08:00
2004/12/13 01:00 - 2004/12/13 07:00 (13)

Dew Point Temperature

2002/11/29 07:30 - 2002/12/09 02:00 (470)
2003/03/05 09:30 - 2003/03/09 08:30 (191)
2003/04/04 11:00 - 2003/04/07 05:30 (134)
2003/06/25 07:00 - 2003/06/25 07:30 (2)

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2004/05/02 20:00 - 2004/05/13 07:30 (504)
2004/05/25 01:00 - 2004/05/25 02:00 (3)
2004/06/14 20:00 - 2004/06/23 23:30 (440)
2004/06/24 01:00 - 2004/06/24 02:00 (3)
2004/06/24 05:30
2004/06/30 07:00 - 2004/08/08 09:00 (1877)
2004/11/16 11:00 - 2004/11/25 00:30 (412)
2004/12/01 03:30 - 2004/12/11 07:30 (489)
2004/12/12 08:00
2004/12/13 01:00 - 2004/12/13 07:00 (13)

Relative Humidity

2002/11/29 07:30 - 2002/12/09 02:00 (470)
2003/03/05 09:30 - 2003/03/09 08:30 (191)
2003/04/04 11:00 - 2003/04/07 05:30 (134)
2003/06/25 07:00 - 2003/06/25 07:30 (2)
2003/06/25 09:00
2003/09/18 01:30 - 2003/09/18 04:30 (7)
2003/11/06 22:00 - 2003/11/10 03:00 (155)
2003/11/22 05:00 - 2003/11/24 05:00 (97)
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2004/03/13 07:30 - 2004/03/13 09:00 (4)
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2004/05/02 20:00 - 2004/05/13 07:30 (504)
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2004/06/24 01:00 - 2004/06/24 02:00 (3)
2004/06/24 05:30
2004/06/30 07:00 - 2004/08/08 09:00 (1877)
2004/11/16 11:00 - 2004/11/25 00:30 (412)
2004/12/01 03:30 - 2004/12/11 07:30 (489)
2004/12/12 08:00
2004/12/13 01:00 - 2004/12/13 07:00 (13)

Specific Humidity

2002/11/29 07:30 - 2002/12/09 02:00 (470)
2003/03/05 09:30 - 2003/03/09 08:30 (191)
2003/04/04 11:00 - 2003/04/07 05:30 (134)
2003/06/25 07:00 - 2003/06/25 07:30 (2)
2003/06/25 09:00
2003/09/18 01:30 - 2003/09/18 04:30 (7)

2003/11/06 22:00 - 2003/11/10 03:00 (155)
2003/11/22 05:00 - 2003/11/24 05:00 (97)
2004/02/27 05:00 - 2004/02/27 05:30 (2)
2004/03/13 07:30 - 2004/03/13 09:00 (4)
2004/03/14 02:00
2004/05/02 20:00 - 2004/05/13 07:30 (504)
2004/05/25 01:00 - 2004/05/25 02:00 (3)
2004/06/14 20:00 - 2004/06/23 23:30 (440)
2004/06/24 01:00 - 2004/06/24 02:00 (3)
2004/06/24 05:30
2004/06/30 07:00 - 2004/08/08 09:00 (1877)
2004/11/16 11:00 - 2004/12/11 07:30 (1194)
2004/12/12 08:00
2004/12/13 01:00 - 2004/12/13 07:00 (13)

Wind Speed

2002/11/29 07:30 - 2002/12/09 02:00 (470)
2003/03/05 09:30 - 2003/03/09 08:30 (191)
2003/04/04 11:00 - 2003/04/07 05:30 (134)
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2004/03/13 07:30 - 2004/03/13 09:00 (4)
2004/03/14 02:00
2004/05/02 20:00 - 2004/05/13 07:30 (504)
2004/05/25 01:00 - 2004/05/25 02:00 (3)
2004/06/14 20:00 - 2004/06/22 02:00 (349)
2004/06/22 03:00 - 2004/06/22 07:30 (10)
2004/06/22 09:30 - 2004/06/22 23:30 (29)
2004/06/23 00:30 - 2004/06/23 01:30 (3)
2004/06/24 01:00 - 2004/06/24 02:00 (3)
2004/06/24 05:30
2004/06/30 07:00 - 2004/08/08 09:00 (1877)
2004/11/16 11:00 - 2004/11/25 00:30 (412)
2004/12/01 03:30 - 2004/12/11 07:30 (489)
2004/12/12 08:00
2004/12/13 01:00 - 2004/12/13 07:00 (13)

Wind Direction

2002/11/29 07:30 - 2002/12/09 02:00 (470)
2003/03/05 09:30 - 2003/03/09 08:30 (191)
2003/04/04 11:00 - 2003/04/07 05:30 (134)
2003/06/25 07:00 - 2003/06/25 07:30 (2)
2003/06/25 09:00
2003/09/18 01:30 - 2003/09/18 04:30 (7)
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2003/11/22 05:00 - 2003/11/24 05:00 (97)
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2004/05/25 01:00 - 2004/05/25 02:00 (3)
2004/06/14 20:00 - 2004/06/22 02:00 (349)
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2004/06/24 05:30
2004/06/30 07:00 - 2004/08/08 09:00 (1877)
2004/11/16 11:00 - 2004/11/25 00:30 (412)
2004/12/01 03:30 - 2004/12/11 07:30 (489)
2004/12/12 08:00
2004/12/13 01:00 - 2004/12/13 07:00 (13)

U Wind Component

2002/11/29 07:30 - 2002/12/09 02:00 (470)
2003/03/05 09:30 - 2003/03/09 08:30 (191)
2003/04/04 11:00 - 2003/04/07 05:30 (134)
2003/06/25 07:00 - 2003/06/25 07:30 (2)
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2003/09/18 01:30 - 2003/09/18 04:30 (7)
2003/11/06 22:00 - 2003/11/10 03:00 (155)
2003/11/22 05:00 - 2003/11/24 05:00 (97)
2003/11/27 00:30 - 2004/05/25 02:00 (8644)
2004/06/14 20:00 - 2004/06/23 01:30 (396)
2004/06/23 08:00 - 2004/06/24 05:30 (44)
2004/06/30 07:00 - 2004/08/08 09:00 (1877)
2004/11/16 11:00 - 2004/11/25 00:30 (412)
2004/12/01 03:30 - 2004/12/11 07:30 (489)
2004/12/12 08:00
2004/12/13 01:00 - 2004/12/13 07:00 (13)

V Wind Component

2002/11/29 07:30 - 2002/12/09 02:00 (470)
2003/03/05 09:30 - 2003/03/09 08:30 (191)
2003/04/04 11:00 - 2003/04/07 05:30 (134)
2003/06/25 07:00 - 2003/06/25 07:30 (2)
2003/06/25 09:00
2003/09/18 01:30 - 2003/09/18 04:30 (7)
2003/11/06 22:00 - 2003/11/10 03:00 (155)
2003/11/22 05:00 - 2003/11/24 05:00 (97)
2003/11/27 00:30 - 2004/05/25 02:00 (8644)
2004/06/14 20:00 - 2004/06/23 01:30 (396)
2004/06/23 08:00 - 2004/06/24 05:30 (44)
2004/06/30 07:00 - 2004/08/08 09:00 (1877)
2004/11/16 11:00 - 2004/11/25 00:30 (412)
2004/12/01 03:30 - 2004/12/11 07:30 (489)
2004/12/12 08:00
2004/12/13 01:00 - 2004/12/13 07:00 (13)

Precipitation

2002/11/29 07:30 - 2002/12/09 02:00 (470)
2003/03/05 09:30 - 2003/03/09 08:30 (191)
2003/04/04 11:00 - 2003/04/07 05:30 (134)
2003/06/25 07:00 - 2003/06/25 07:30 (2)
2003/06/25 09:00
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2003/11/06 22:00 - 2003/11/10 03:00 (155)
2003/11/22 05:00 - 2003/11/24 05:00 (97)
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2004/03/13 07:30 - 2004/03/13 09:00 (4)
2004/03/14 02:00
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2004/05/25 01:00 - 2004/05/25 02:00 (3)
2004/06/14 20:00 - 2004/06/22 02:00 (349)
2004/06/22 03:00 - 2004/06/22 07:30 (10)
2004/06/22 09:30 - 2004/06/22 23:30 (29)
2004/06/23 00:30 - 2004/06/23 01:30 (3)
2004/06/24 01:00 - 2004/06/24 02:00 (3)
2004/06/24 05:30
2004/06/30 07:00 - 2004/08/08 09:00 (1877)
2004/11/16 11:00 - 2004/11/25 00:30 (412)
2004/12/01 03:30 - 2004/12/11 07:30 (489)
2004/12/12 08:00
2004/12/13 01:00 - 2004/12/13 07:00 (13)

Snow Depth

2002/11/29 07:30 - 2004/12/31 23:30 (ALL)

Incoming Shortwave

2003/03/05 09:30 - 2003/03/09 08:30 (191)
2003/03/10 01:30 - 2003/03/10 02:00 (2)
2003/03/22 13:00 - 2003/03/22 14:00 (3)
2003/03/22 15:30 - 2003/03/23 00:00 (18)
2003/03/23 09:30 - 2003/03/23 11:00 (4)
2003/03/23 12:00 - 2003/03/23 12:30 (2)
2003/03/23 18:30 - 2003/03/23 22:00 (8)
2003/03/24 15:00 - 2003/03/24 22:30 (16)
2003/03/25 09:30
2003/03/25 10:30 - 2003/03/25 20:00 (20)
2003/03/26 01:30
2003/03/26 02:30
2003/03/26 09:00 - 2003/03/26 09:30 (2)
2003/03/26 13:00 - 2003/03/26 13:30 (2)
2003/03/26 14:30 - 2003/03/26 15:30 (3)
2003/03/26 17:00
2003/03/26 18:00
2003/03/27 07:30 - 2003/03/27 23:00 (32)
2003/03/30 17:00
2003/04/01 17:00 - 2003/04/01 21:00 (9)

2003/04/03 07:00 - 2003/04/03 08:00 (3)
2003/04/03 09:30 - 2003/04/03 14:30 (11)
2003/04/04 11:00 - 2003/04/07 05:30 (134)
2003/04/07 07:30
2003/04/07 09:00 - 2003/04/07 10:30 (4)
2003/04/08 18:00 - 2003/04/08 18:30 (2)
2003/04/09 08:30 - 2003/04/09 10:30 (5)
2003/04/09 11:30
2003/04/09 13:00 - 2003/04/09 13:30 (2)
2003/04/09 16:00
2003/04/09 18:00 - 2003/04/09 22:00 (9)
2003/04/10 08:30 - 2003/04/10 11:30 (7)
2003/04/10 16:30 - 2003/04/10 20:30 (9)
2003/04/10 21:30 - 2003/04/10 22:30 (3)
2003/04/12 06:00 - 2003/04/12 08:00 (5)
2003/04/12 09:00 - 2003/04/12 22:30 (28)
2003/04/17 15:00 - 2003/04/17 22:00 (15)
2003/04/20 20:00
2003/04/21 10:00 - 2003/04/21 12:30 (6)
2003/04/23 14:00 - 2003/04/23 22:00 (17)
2003/05/23 05:30 - 2003/05/23 22:00 (34)
2003/05/24 01:30
2003/05/24 06:30 - 2003/05/24 10:30 (9)
2003/05/25 01:00
2003/05/27 01:00
2003/06/06 15:30 - 2003/06/06 18:30 (7)
2003/06/08 08:00 - 2003/06/08 15:00 (15)
2003/06/09 04:30 - 2003/06/09 23:00 (38)
2003/06/10 13:30 - 2003/06/11 10:30 (43)
2003/06/11 17:30 - 2003/06/11 20:00 (6)
2003/06/11 21:30 - 2003/06/11 22:00 (2)
2003/06/11 23:30
2003/06/12 04:00 - 2003/06/12 23:30 (40)
2003/06/13 00:30
2003/06/13 03:30 - 2003/06/13 17:30 (29)
2003/06/20 13:30 - 2003/06/20 17:30 (9)
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2003/06/25 07:00 - 2003/06/25 07:30 (2)
2003/06/25 09:00
2003/06/26 01:00 - 2004/02/27 06:30 (11820)
2004/03/13 07:30 - 2004/03/13 09:00 (4)
2004/03/14 02:00
2004/05/08 07:30 - 2004/05/13 07:30 (241)
2004/05/25 01:30 - 2004/05/25 02:00 (2)
2004/06/14 20:00 - 2004/06/22 02:00 (349)
2004/06/22 03:30
2004/06/23 08:00
2004/08/08 03:00 - 2004/08/08 09:00 (13)
2004/12/01 05:00 - 2004/12/11 07:30 (486)
2004/12/12 08:00

2004/12/13 01:00 - 2004/12/13 02:00 (3)
2004/12/19 03:30 - 2004/12/31 13:30 (597)

Outgoing Shortwave

2002/11/29 07:30 - 2004/12/31 23:30 (ALL)

Incoming Longwave

2003/03/05 09:30 - 2003/03/09 08:30 (191)
2003/03/10 01:30 - 2003/03/10 02:00 (2)
2003/03/22 13:00 - 2003/03/22 14:00 (3)
2003/03/22 15:30 - 2003/03/23 00:00 (18)
2003/03/23 09:30 - 2003/03/23 11:00 (4)
2003/03/23 12:00 - 2003/03/23 12:30 (2)
2003/03/23 18:30 - 2003/03/23 22:00 (8)
2003/03/24 15:00 - 2003/03/24 22:30 (16)
2003/03/25 09:30
2003/03/25 10:30 - 2003/03/25 20:00 (20)
2003/03/26 01:30
2003/03/26 02:30
2003/03/26 09:00 - 2003/03/26 09:30 (2)
2003/03/26 13:00 - 2003/03/26 13:30 (2)
2003/03/26 14:30 - 2003/03/26 15:30 (3)
2003/03/26 17:00
2003/03/26 18:00
2003/03/27 07:30 - 2003/03/27 23:00 (32)
2003/03/30 17:00
2003/04/01 17:00 - 2003/04/01 21:00 (9)
2003/04/03 07:00 - 2003/04/03 08:00 (3)
2003/04/03 09:30 - 2003/04/03 14:30 (11)
2003/04/04 11:00 - 2003/04/07 05:30 (134)
2003/04/07 07:30
2003/04/07 09:00 - 2003/04/07 10:30 (4)
2003/04/08 18:00 - 2003/04/08 18:30 (2)
2003/04/09 08:30 - 2003/04/09 10:30 (5)
2003/04/09 11:30
2003/04/09 13:00 - 2003/04/09 13:30 (2)
2003/04/09 16:00
2003/04/09 18:00 - 2003/04/09 22:00 (9)
2003/04/10 08:30 - 2003/04/10 11:30 (7)
2003/04/10 16:30 - 2003/04/10 20:30 (9)
2003/04/10 21:30 - 2003/04/10 22:30 (3)
2003/04/12 06:00 - 2003/04/12 08:00 (5)
2003/04/12 09:00 - 2003/04/12 22:30 (28)
2003/04/17 15:00 - 2003/04/17 22:00 (15)
2003/04/20 20:00
2003/04/21 10:00 - 2003/04/21 12:30 (6)
2003/04/23 14:00 - 2003/04/23 22:00 (17)
2003/05/23 05:30 - 2003/05/23 22:00 (34)
2003/05/24 01:30
2003/05/24 06:30 - 2003/05/24 10:30 (9)
2003/05/25 01:00

2003/05/27 01:00
2003/06/06 15:30 - 2003/06/06 18:30 (7)
2003/06/08 08:00 - 2003/06/08 15:00 (15)
2003/06/09 04:30 - 2003/06/09 23:00 (38)
2003/06/10 13:30 - 2003/06/11 10:30 (43)
2003/06/11 17:30 - 2003/06/11 20:00 (6)
2003/06/11 21:30 - 2003/06/11 22:00 (2)
2003/06/11 23:30
2003/06/12 04:00 - 2003/06/12 23:30 (40)
2003/06/13 00:30
2003/06/13 03:30 - 2003/06/13 17:30 (29)
2003/06/20 13:30 - 2003/06/20 17:30 (9)
2003/06/20 19:30 - 2003/06/20 21:00 (4)
2003/06/25 05:30 - 2003/06/25 06:00 (2)
2003/06/25 07:00 - 2003/06/25 07:30 (2)
2003/06/25 09:00
2003/06/26 01:00 - 2004/12/31 23:30 (26638)

Outgoing Longwave

2002/11/29 07:30 - 2004/12/31 23:30 (ALL)

Net Radiation

2002/11/29 07:30 - 2004/12/31 23:30 (ALL)

Skin Temperature

2002/11/29 07:30 - 2004/12/31 23:30 (ALL)

Incoming PAR

2002/11/29 07:30 - 2004/12/31 23:30 (ALL)

Outgoing PAR

2002/11/29 07:30 - 2004/12/31 23:30 (ALL)