

## TITLE

CEOP\_AP\_W-PacificOcean\_Peleliu\_20070101\_20071231.sfc

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## DATE OF THIS DOCUMENT

31 August 2010

## 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, RIGC (former IORGC or FORSGC) conducted continuous surface weather observation since 2000 around the Republic of Palau.

### 1.2 Time period covered by the data

Start: 1 January 2007, 00:00  
End: 31 December 2007, 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 Research Institute for Global Change (RIGC), 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.

Automatic weather station was replaced to a new one on 5 June 2007.

#### 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 (until 4 June)<br>82017 (after 5 June) | YOUNG siphon raingauge<br>Takeda-Keiki tipping bucket type |
| Shortwave radiation  | PSP (until 4 June)<br>MS-402 (after 5 June)      | Eppley Labs<br>EIKO  |

#### 2.3 Instrumentation specification

| Parameter         | Sensor Type                        | Height of sensor (m) | Accuracy                    | Resolution |
|-------------------|------------------------------------|----------------------|-----------------------------|------------|
| Air Temperature   | Resistive platinum<br>100 $\Omega$ | 1.65                 | 0.3°C                       | 0.1°C      |
| Relative Humidity | Capacitive thin film<br>polymer    | 1.65                 | 2% (0-90%);<br>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 (siphon)<br>1.0 (tipping) | +/- 2mm | 0.1 mm (siphon)<br>0.5 mm (tipping) |
| Shortwave Radiation  |             | 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, 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 1 minutes averaged data. Finally data was averaged for 30 minutes.

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

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

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

#### **3.3 Format description**

[http://www.eol.ucar.edu/projects/ceop/dm/documents/refdata\\_report/ceop\\_sfc\\_met\\_format.html](http://www.eol.ucar.edu/projects/ceop/dm/documents/refdata_report/ceop_sfc_met_format.html)

### **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 CEOP 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 provided by Research Institute for Global Change (RIGC), 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

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File Name : CEOP\_AP\_W-PacificOcean\_Peleliu\_20070101\_20071231.sfc  
Data Period : 2007/01/01 00:00 - 2007/12/31 23:30  
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### Station Pressure

2007/01/01 00:00  
2007/01/08 04:30 - 2007/01/18 01:30 (475)  
2007/01/18 03:00 - 2007/01/18 05:00 (5)  
2007/01/23 07:00 - 2007/02/04 06:00 (575)  
2007/05/08 02:30 - 2007/05/11 07:00 (154)  
2007/06/05 00:30 - 2007/06/05 12:00 (24)  
2007/08/07 09:30 - 2007/08/07 21:30 (25)

### Air Temperature

2007/01/01 00:00  
2007/01/08 04:30 - 2007/01/18 01:30 (475)  
2007/01/18 03:00 - 2007/01/18 05:00 (5)  
2007/01/23 07:00 - 2007/02/04 06:00 (575)  
2007/05/08 02:30 - 2007/05/11 07:00 (154)  
2007/06/05 00:30 - 2007/06/05 12:00 (24)  
2007/08/07 09:30 - 2007/08/07 21:30 (25)

### Dew Point Temperature

2007/01/01 00:00  
2007/01/08 04:30 - 2007/01/18 01:30 (475)  
2007/01/18 03:00 - 2007/01/18 05:00 (5)  
2007/01/23 07:00 - 2007/02/04 06:00 (575)  
2007/05/08 02:30 - 2007/05/11 07:00 (154)  
2007/06/05 00:30 - 2007/06/05 12:00 (24)  
2007/08/07 09:30 - 2007/08/07 21:30 (25)

### Relative Humidity

2007/01/01 00:00  
2007/01/08 04:30 - 2007/01/18 01:30 (475)  
2007/01/18 03:00 - 2007/01/18 05:00 (5)  
2007/01/23 07:00 - 2007/02/04 06:00 (575)  
2007/05/08 02:30 - 2007/05/11 07:00 (154)  
2007/06/05 00:30 - 2007/06/05 12:00 (24)  
2007/08/07 09:30 - 2007/08/07 21:30 (25)

### Specific Humidity

2007/01/01 00:00  
2007/01/08 04:30 - 2007/01/18 01:30 (475)  
2007/01/18 03:00 - 2007/01/18 05:00 (5)  
2007/01/23 07:00 - 2007/02/04 06:00 (575)  
2007/05/08 02:30 - 2007/05/11 07:00 (154)  
2007/06/05 00:30 - 2007/06/05 12:00 (24)  
2007/08/07 09:30 - 2007/08/07 21:30 (25)

### Wind Speed

2007/01/01 00:00  
2007/01/08 04:30 - 2007/01/18 01:30 (475)  
2007/01/18 03:00 - 2007/01/18 05:00 (5)  
2007/01/23 07:00 - 2007/02/04 06:00 (575)  
2007/05/08 02:30 - 2007/05/11 07:00 (154)  
2007/06/05 00:30 - 2007/06/05 12:00 (24)  
2007/08/07 09:30 - 2007/08/07 21:30 (25)

#### Wind Direction

2007/01/01 00:00  
2007/01/08 04:30 - 2007/01/18 01:30 (475)  
2007/01/18 03:00 - 2007/01/18 05:00 (5)  
2007/01/23 07:00 - 2007/02/04 06:00 (575)  
2007/05/08 02:30 - 2007/05/11 07:00 (154)  
2007/06/05 00:30 - 2007/06/05 12:00 (24)  
2007/08/07 09:30 - 2007/08/07 21:30 (25)

#### U Wind Component

2007/01/01 00:00  
2007/01/08 04:30 - 2007/01/18 01:30 (475)  
2007/01/18 03:00 - 2007/01/18 05:00 (5)  
2007/01/23 07:00 - 2007/02/04 06:00 (575)  
2007/05/08 02:30 - 2007/05/11 07:00 (154)  
2007/06/05 00:30 - 2007/06/05 12:00 (24)  
2007/08/07 09:30 - 2007/08/07 21:30 (25)

#### V Wind Component

2007/01/01 00:00  
2007/01/08 04:30 - 2007/01/18 01:30 (475)  
2007/01/18 03:00 - 2007/01/18 05:00 (5)  
2007/01/23 07:00 - 2007/02/04 06:00 (575)  
2007/05/08 02:30 - 2007/05/11 07:00 (154)  
2007/06/05 00:30 - 2007/06/05 12:00 (24)  
2007/08/07 09:30 - 2007/08/07 21:30 (25)

#### Precipitation

2007/01/01 00:00  
2007/06/05 00:30 - 2007/06/05 12:00 (24)  
2007/08/07 09:30 - 2007/08/07 22:00 (26)  
2007/09/29 02:30

#### Snow Depth

2007/01/01 00:00 - 2007/12/31 23:30 (ALL)

#### Incoming Shortwave

2007/01/01 00:00  
2007/01/08 04:30 - 2007/01/17 03:30 (431)  
2007/01/18 01:30 - 2007/01/18 03:30 (5)  
2007/01/19 02:00 - 2007/01/19 02:30 (2)  
2007/01/22 02:30 - 2007/01/22 04:30 (5)  
2007/01/23 07:00 - 2007/02/04 06:00 (575)  
2007/02/04 08:00  
2007/02/04 09:30  
2007/02/04 23:00 - 2007/02/05 03:30 (10)

2007/02/06 00:00 - 2007/02/06 01:30 (4)  
2007/02/07 01:30  
2007/02/08 01:00 - 2007/02/08 03:00 (5)  
2007/02/09 01:30 - 2007/02/09 03:00 (4)  
2007/02/10 01:30 - 2007/02/10 02:30 (3)  
2007/02/11 01:30 - 2007/02/11 02:00 (2)  
2007/02/12 02:30 - 2007/02/12 03:30 (3)  
2007/02/13 02:30  
2007/03/21 01:30  
2007/04/17 00:30  
2007/04/18 01:00  
2007/04/19 01:00 - 2007/04/19 01:30 (2)  
2007/04/24 03:30 - 2007/04/24 04:00 (2)  
2007/04/28 00:00 - 2007/04/28 00:30 (2)  
2007/05/02 00:00 - 2007/05/02 01:00 (3)  
2007/05/02 23:30 - 2007/05/03 00:30 (3)  
2007/05/05 00:00  
2007/05/06 23:30 - 2007/05/07 00:30 (3)  
2007/05/07 23:00 - 2007/05/08 01:00 (5)  
2007/05/08 02:30 - 2007/06/05 12:00 (1364)  
2007/08/07 09:30 - 2007/08/07 22:00 (26)

#### Outgoing Shortwave

2007/01/01 00:00 - 2007/12/31 23:30 (ALL)

#### Incoming Longwave

2007/01/01 00:00 - 2007/12/31 23:30 (ALL)

#### Outgoing Longwave

2007/01/01 00:00 - 2007/12/31 23:30 (ALL)

#### Net Radiation

2007/01/01 00:00 - 2007/12/31 23:30 (ALL)

#### Skin Temperature

2007/01/01 00:00 - 2007/12/31 23:30 (ALL)

#### Incoming PAR

2007/01/01 00:00 - 2007/12/31 23:30 (ALL)

#### Outgoing PAR

2007/01/01 00:00 - 2007/12/31 23:30 (ALL)