

MIRAI MR16-09 Leg1 Marine Meteorology

Last Modified: 2017-09-27

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Cruise ID: [MR16-09 Leg1](#)

Marine Meteorology: Processed (DMO)-Corrected

Data Policy: [JAMSTEC](#)

Observation Items: Atmospheric pressure, Air temperature, Dew point temperature, Relative humidity, Sea surface temperature, Zonal and meridional wind component, Precipitation, Shortwave radiation, Longwave radiation

Science Keywords:

ATMOSPHERE > ATMOSPHERIC PRESSURE > SEA LEVEL PRESSURE
ATMOSPHERE > ATMOSPHERIC RADIATION > LONGWAVE RADIATION
ATMOSPHERE > ATMOSPHERIC RADIATION > SHORTWAVE RADIATION
ATMOSPHERE > ATMOSPHERIC TEMPERATURE > AIR TEMPERATURE
ATMOSPHERE > ATMOSPHERIC WATER VAPOR > DEW POINT TEMPERATURE
ATMOSPHERE > ATMOSPHERIC WATER VAPOR > HUMIDITY
ATMOSPHERE > PRECIPITATION
OCEANS > OCEAN TEMPERATURE > SEA SURFACE TEMPERATURE
OCEANS > OCEAN WAVES > SIGNIFICANT WAVE HEIGHT
OCEANS > OCEAN WINDS > SURFACE WINDS

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR16-09_leg1-4_all.pdf

For Using Data

Principal Investigator

Data Management Office

Use Constraints

See [Terms and Conditions](#) about constrain of use.

Data Citation

See [Terms and Conditions](#) about data citation.

Period (UTC)

2016-12-28 18:50 – 2017-01-15 06:10

Instrument

Instrument:

General maritime meteorological observation system

Instrument:

SOAR (Shipboard Oceanographic and Atmospheric Radiation)(- MR20-01)



Overview

"MIRAI meteorological integrated dataset" is a set of "suitably composed data" which consists of 10-minute-average corrected Atmospheric Pressure, Air Temperature, Relative Humidity, Wind Direction and Speed, Precipitation, Radiation, Sea Surface Temperature, and Wave Height observed by R/V MIRAI. The correction and processing method was produced by Dr. K. Yoneyama (IORGC/JAMSTEC) in cooperation with DMO. The actual data processing was conducted by DMO. See [here](#) for detailed correction and processing method.

Specifications

Sensors	Type	Manufacturer	Location (from sea surface)
Anemometer	05106	R.M. Young, USA	Foremast (25m)
Tair/RH	HMP155	Vaisala, Finland with 43408 Gill aspirated radiation shield R.M. Young, USA	Starboard and port side at compass deck (21m)
Thermometer (SST)	SBE-38	Sea-Bird Electronics, USA	Bow thruster room (-4.5m)
Barometer	Model-370	Setra System, USA	Weather observation room at captain deck (13m)
Rain gauge	50202	R.M. Young, USA	Foremast (24m)
Radiometer (shortwave)	PSP	Eppley, USA	Foremast (25m)
Radiometer (long-wave)	PIR	Eppley, USA	Foremast (25m)
Wave height meter	WM-2	Tsurumi-Seiki, Japan	Bow (10m)

Sensors information

Tair/RH sensor calibration date

Starboard side : 2016/05/10

Port side : 2016/10/31

Rain gauge calibration (Using the revision of rain data)

Minimum value (0.0 cc) : 0.72 mm

Maximum value (502.3 cc) : 50.14 mm

Date : 2016/12/25

Need raw data?

If you would like the raw data set, please contact us from "Contact Us" above.

Note

1) During the following period, PSP and PIR data are invalid due to the PRP system maintenance.

2017/01/07 16:10

2) During the following period, PSP data are invalid due to the PRP PSP sensor trouble.

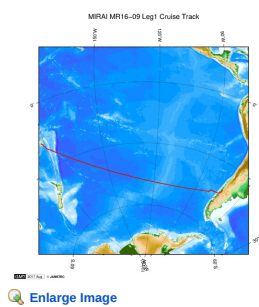
2017/01/02 13:00 - 2017/01/07 16:00

3) About PSP calibration

In this cruise, SOAR PRP PSP sensor was broken and then we replaced the sensor. Because of the sensor replacement, the PRP system configuration has been changed in comparison with the one when manufacturer's calibration was done. It cannot be used as conversion coefficient by the manufacturer's calibration (Original), we carried out self-calibration and corrected the shortwave radiation values.

For details of the self-calibration result, please click [here](#).

Related Information



MR16-09 Leg1

Ship Name: MIRAI

Period: 2016-12-26 - 2017-01-17

Chief Scientist: Akihiko Murata (JAMSTEC)

Proposal ▶ Ship-borne measurements of aerosols in the marine atmosphere: Investigation of potential influence of marine aerosol particles on the climate;

Update History

2017-09-27	An observation data was registered.
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Meteorology Corrected

Single space separated.

No.	Column	Content	Unit	format (nodata or baddata)	Remarks
1	1-12	Date and time [YYYYMMDDhhmm]		i12	Every 10 minutes* * Time stamp is set at the end of average
2	14-21	Julian day [DDD.DDDD]		f8.4	Every 10 minutes*
3	23-29	Longitude [0 to 360]	degree	f7.3 (999.999)	Location at time stamp East longitude
4	31-37	Latitude [-90 to 90]	degree	f7.3 (999.999)	Location at time stamp +: North latitude -: South latitude
5	39-44	Atmospheric pressure	hPa	f6.1 (9999.9)	10-minute mean*
6	46-50	Air temperature	deg-C	f5.1 (999.9)	10-minute mean* Data is selected on the windward side
7	52-56	Dewpoint temperature	deg-C	f5.1 (999.9)	10-minute mean* Calculated from 'Air temperature' and 'Relative humidity' using WMO's Formula(**) for liquid water ** WMO-No.8 (Guide to Meteorological Instruments and Methods of Observation)
8	58-62	Relative humidity	%	f5.1 (999.9)	10-minute mean* Data is selected on the windward side
9	64-70	Sea surface temperature (SST)	deg-C	f7.4 (99.9999)	10-minute mean* From EPCS/TSG
10	72-76	Wind speed (zonal)	m/sec	f5.1 (999.9)	10-minute mean* No anemometer height adjustment
11	78-82	Wind speed (meridional)	m/sec	f5.1 (999.9)	10-minute mean* No anemometer height adjustment
12	84-89	Rainfall intensity	mm/hr	f6.2 (999.99)	10-minute mean*
13	91-96	Short wave radiation	W/m2	f6.1 (9999.9)	10-minute mean*
14	98-102	Long wave radiation	W/m2	f5.1 (999.9)	10-minute mean*
15	104-108	Significant wave height	m	f5.2 (99.99)	Calculated every an hour Calculated every 3 hours, before March 2003
16	110-114	Wave period	second	f5.2 (99.99)	Calculated every an hour Calculated every 3 hours, before March 2003

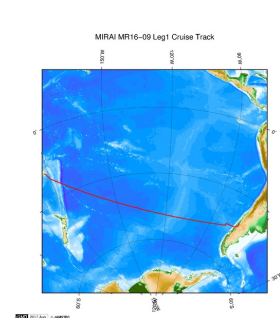
Data Example

```

YYYYMMDDhhmm DDD.DDDD Lon Lat Press AT DT RH SST WindU WindV Rain SWR LWR WH WP
200611290000 333.0000 77.314 2.715 1009.2 27.6 23.7 79.2 28.8732 -2.5 -1.6 0.00 0.0 388.1 0.94 7.69
200611290010 333.0070 77.346 2.703 1009.3 27.6 23.7 79.3 28.8931 -2.3 -1.1 0.00 0.0 388.3 0.96 7.92
200611290020 333.0139 77.378 2.692 1009.5 27.6 23.8 79.8 28.8957 -2.0 -0.5 0.00 0.0 387.7 0.96 7.92
200611290030 333.0208 77.410 2.681 1009.6 27.6 23.7 79.1 28.9206 -2.3 -1.0 0.00 0.0 388.0 0.96 7.92
200611290040 333.0278 77.442 2.670 1009.7 27.7 23.6 78.6 28.9477 -2.4 -0.7 0.00 0.0 386.7 0.96 7.92
200611290050 333.0347 77.474 2.658 1009.9 27.7 23.8 79.3 28.9166 -2.7 -1.2 0.00 2.4 390.7 0.96 7.92
200611290100 333.0417 77.506 2.647 1010.1 27.7 23.7 79.1 28.8948 -3.0 -1.5 0.00 12.6 390.8 0.96 7.92

```

Related Information



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MR16-09 Leg1

Ship Name: MIRAI

Period: 2016-12-26 - 2017-01-17

Chief Scientist: Akihiko Murata (JAMSTEC)

Proposal ▶ Ship-borne measurements of aerosols in the marine atmosphere: Investigation of potential influence of marine aerosol particles on the climate;

Title:

Update History

2017-09-27 An observation data was registered.

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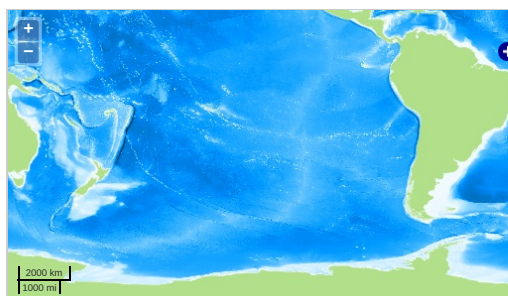
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Science Keywords:

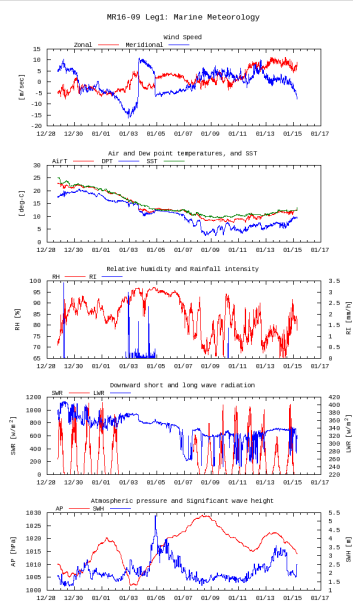
ATMOSPHERE	> ATMOSPHERIC PRESSURE	> SEA LEVEL PRESSURE
ATMOSPHERE	> ATMOSPHERIC RADIATION	> LONGWAVE RADIATION
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OCEANS	> OCEAN WINDS	> SURFACE WINDS

Observation Map



— ... Observation Line — ... Navigation ● ... Observation, Dive Point, Hole

Figures



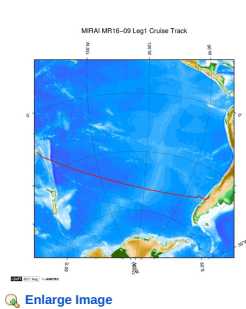
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File names

☐ MR16-09_leg1.dat

Related Information



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Chief Scientist: Akihiko Murata (JAMSTEC)
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