

MIRAI MR13-03 Leg1 Underway Thermosalinograph

Last Modified: 2017-06-29

Cruise ID: [MR13-03 Leg1](#)

Underway Thermosalinograph: Processed (DMO)-QCed

Data Policy: [JAMSTEC](#)

Observation Items: Temperature, Salinity, Dissolved oxygen

Science Keywords:

OCEANS > OCEAN CHEMISTRY > OXYGEN
 OCEANS > SALINITY/DENSITY > SALINITY
 > OCEAN > SEA SURFACE
 OCEANS TEMPERATURE TEMPERATURE

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR13-03_leg1-2_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.

Instrument

Instrument:

Continuous sea surface water monitoring system (MR10-04 Leg1 - MR14-02)



Overview

Thermosalinograph measures the following surface parameters continuously.

- temperature
- salinity
- dissolved oxygen

Sea surface water is continuously pumped up at 4.5 meters depth to the sea surface monitoring laboratory and then flowed into each analysis equipment through a steel pipe and a vinyl-chloride pipe.

The flow rate of this system is controlled by some valves. Data are recorded in the personal computer.

System

- Temperature sensor
 - Model : SBE 38, Sea-Bird Electronics, Inc.
 - Serial number : 3852788-0457
 - Measurement range : -5 to 35 deg-C (ITS-90)
 - Sensor location : Bow thruster room
- Salinity sensor
 - MicroTSG (Thermosalinograph)
 - Model : SBE-45, Sea-Bird Electronics, Inc.
 - Serial number : 4557820-0319
 - Measurement range : [temperature] -5 to +35 deg-C (ITS-90), [conductivity] 0 to 7 S/m
 - Sensor location : Sea surface monitoring laboratory
- DO sensor
 - Model : OPTODE 3835, AANDERAA Instrument.
 - Serial number : 1519
 - Measurement range : 0 to 500 $\mu\text{mol dm}^{-3}$
 - Sensor location : Sea surface monitoring laboratory

Number of significant figures of data

After considering the accuracy of the sensors, the significant digit of data was changed as in the following list.

Data	Raw (ASCII data)	On this web site
Temperature	0.0001 [deg-C]	0.001 [deg-C]
Salinity	0.0001 [PSU]	0.001 [PSU]
Dissolved oxygen	0.01 [$\mu\text{mol/kg}$]	0.1 [$\mu\text{mol/kg}$]

* The unit of the dissolved oxygen was changed from ml/l into $\mu\text{mol/kg}$ since MR10-04.

Data acquisition

Date/Time (UTC)	Start/Stop	Remarks
2013/06/02, 06:30	start	39-56.49N, 142-09.91E
2013/06/09, 21:30	stop	07-44.51N, 134-18.79E

Calibration Information

Calibration Information is as follows.

[Calibration Information](#)

Data processing

(1) Quality control

QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure.

1) The gradient check of adjacent depth data

Please see the site of NODC of the following link for quality control procedure in detail.

[QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA](#)

In addition, an abnormal value is identified by a visual check, and the data after visual QC is released.

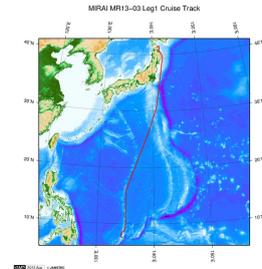
Note

(1)The drift that exceeded the sensor specification (0.003PSU/month) turned out from the comparison between analysis data and the sensor data about the salinity data. Please see calibration information for details.

Calibration Information

Figure: The comparison between analysis data and the sensor data

Related Information



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Ship Name: MIRAI

Period: 2013-05-31 - 2013-06-10

Chief Scientist: Masaki Katsumata (JAMSTEC)

Project Name: [MJO Research]

Proposal ▶ Observational Study on the Intreseasonal Variability over the western Pacific

Title:

Update History

2017-06-29	An observation data was registerd.
2015-09-18	An observation data was registerd.
2015-06-26	An observation data was registerd.
2015-06-04	An observation data was registerd.
2014-05-20	An observation data was registerd.

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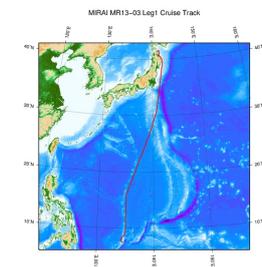


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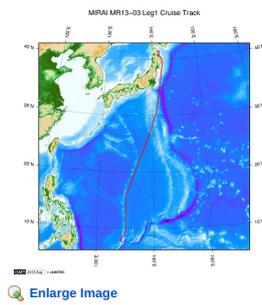
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