

MIRAI MR14-01 Underway Thermosalinograph

Last Modified: 2017-06-29

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Cruise ID: **MR14-01**

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/MR14-01_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 : 3857820-0540
 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 : 4563325-0362
 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 Instruments.
 Serial number : 1519
 Measurement range : 0 to 500 µmol 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 [µmol/kg]	0.1 [µmol/kg]

* The unit of the dissolved oxygen was changed from ml/l into µmol/kg since MR10-04.

Data acquisition

Date/Time (UTC)	Start/Stop	Remarks
2014/01/10, 06:52	start	40-20.38N, 141-59.31E
2014/01/15, 02:00	stop	23-43.47N, 124-53.76E
2014/01/24, 01:00	start	02-33.86N, 092-01.39E
2014/02/03, 02:43	stop	08-00.28S, 099-45.99E

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.

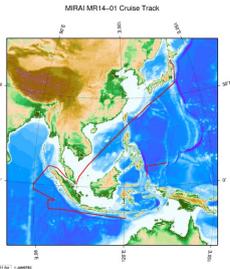
Note

(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



MR14-01

Ship Name: MIRAI
Period: 2014-01-08 - 2014-02-13
Chief Scientist: Iwao Ueki (JAMSTEC)
Project Name: [Tropical Ocean Climate Study (TOCS)]
Proposal ▶ Tropical Ocean Climate Study/Operation of TRITON Buoy
Title:

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Update History

2017-06-29	An observation data was registered.
2015-09-18	An observation data was registered.
2015-06-26	An observation data was registered.
2015-06-04	An observation data was registered.
2014-12-06	An observation data was registered.
2014-11-28	An observation data was registered.

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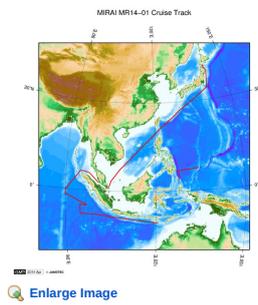


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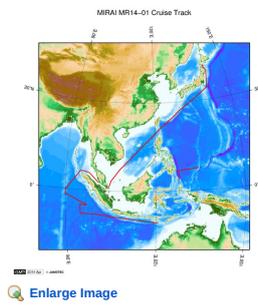
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