

MIRAI MR11-05 Leg1 Underway Thermosalinograph

Last Modified: 2017-06-29

[ReadMe](#) [Observation Data](#) [Data Format](#)

Cruise ID: [MR11-05 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/MR11-05_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 : 4552788-0264
 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 umol dcum
 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 [umol/kg]	0.1 [umol/kg]

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

Data acquisition

Date/Time (UTC)	Start/Stop	Remarks
2011-06-27, 06:27	start	41-18.18N, 142-56.48E
2011-07-15, 20:56	stop	35-02.50N, 139-43.89E

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.

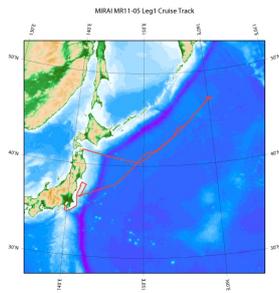
Note

(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



MR11-05 Leg1

Ship Name: MIRAI

Period: 2011-06-26 - 2011-07-16

Chief Scientist: Makio Honda (JAMSTEC)

Project Name: [Station K2, Station KNOT]

Proposal ▶ Effects of meso-zooplankton on food web and vertical flux

Title:

[Enlarge Image](#)

Update History

2017-06-29	An observation data was registered.
2015-06-04	An observation data was registered.
2014-04-09	An observation data was registered.
2012-09-28	An observation data was registered.

JAMSTEC

[Site Policy](#)
[Privacy Policy](#)
[Application for Data and Samples](#)
[Data Policy](#)
[What's New](#)
[Update History](#)
[Feeds](#)

[Lists](#)
[Publication List](#)
[Amount of Public Info.](#)
[Data](#)
[Map Search](#)
[Data Tree](#)
[Detailed Search](#)

[Information of the Ships](#)
NATSUSHIMA
KAIYO
YOKOSUKA
MIRAI
KAIREI
CHIKYU
KAIMEI
SHINSEI MARU
HAKUHO MARU

[Information of the Submersibles](#)
KAIKO
SHINKAI 2000
SHINKAI 6500
DEEP TOW
HYPER-DOLPHIN
URASHIMA
YOKOSUKA DEEP TOW
6K Camera DEEP TOW
6K Sonar DEEP TOW
KM-ROV
POWER GRAB
SAMPLER (SHELL)
POWER GRAB
SAMPLER (CLOW)
BMS

Go to a Cruise Information

Cruise ID:

Go to a Dive Information

Dive ID:



MIRAI MR11-05 Leg1 Underway Thermosalinograph

Last Modified: 2017-06-29

[ReadMe](#) [Observation Data](#) [Data Format](#)

Cruise ID: [MR11-05 Leg1](#)

Underway Thermosalinograph: Processed (DMO)-QCed

Data Policy: [JAMSTEC](#)

TSG DMO

Format Description for the QCed Data

Each data file contains one line header and daily observation data.

Header part

No.	Column	Content	Format	Remarks
1	1	Header ID	a1	fixed as '#'
2	3 - 6	Data ID	a4	TSG
3	8 - 22	Cruise ID	a15	e.g. MRYX-XX_legx
4	68 - 71	Number of data lines	i4	
5	72 - 73	Terminator	-	CR+LF

Data part

No.	Column	Content	Unit	Format	Remarks
1	1 - 8	Date	-	i8	YYYYMMDD (UTC)
2	10 - 13	Time	-	i4	hhmm (UTC)
3	15 - 23	Latitude	-	i2,a1,f5.2,a1	dd-mm.mmN(S)
4	25 - 34	Longitude	-	i3,a1,f5.2,a1	ddd-mm.mmE(W)
5	35 - 45	Temperature	deg-C	f11.3	ITS-90
6	46 - 56	Salinity	PSU	f11.3	PSS-78
7	57 - 67	Dissolved oxygen	μmol/kg	f11.1	
8	68 - 78	Flag	-	i11	1 - 6 : space 7 : flag of date/time 8 : flag of latitude/longitude 9 : flag of temperature 10 : flag of salinity 11 : flag of dissolved oxygen
9	79 - 80	Terminator	-	-	CR+LF

* This format has been applied since MR10-04 cruise of R/V Mirai.

* Temperature, Salinity, Dissolved oxygen: Missing value is presented by '-5', and error value is presented by '-9'.

Definition of Quality Control Flags

1. Observed Level Flags

- 0 - accepted value
- 1 - range outlier (outside of broad range check)
- A - doubtful value
- N - missing value

2. Date and time flag (Thermosalinograph only)

- 0 - accepted data and time
- 1 - failed duplicate/missing/incorrect date and time

3. Position flag (Thermosalinograph only)

- 0 - accepted position
- 1 - failed estimated ship speed check including missing/incorrect position

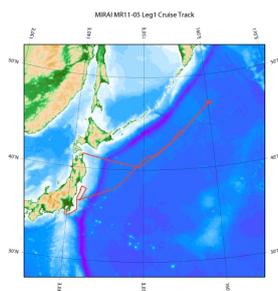
For details about range set of temperature, salinity and oxygen data, please refer the web site of NODC (National Oceanographic Data Center) from the following link for quality control procedure.

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

Sample Program

[ex_read2.f](#)

Related Information



[Enlarge Image](#)

MR11-05 Leg1

Ship Name: MIRAI
Period: 2011-06-26 - 2011-07-16
Chief Scientist: Makio Honda (JAMSTEC)
Project Name: [Station K2, Station KNOT]
Proposal ▶ Effects of meso-zooplankton on food web and vertical flux
Title:

Update History

2017-06-29	An observation data was registerd.
2015-06-04	An observation data was registerd.
2014-04-09	An observation data was registerd.
2012-09-28	An observation data was registerd.

JAMSTEC
Site Policy
Privacy Policy
Application for Data and Samples
Data Policy
What's New
Update History
Feeds

Lists
Publication List
Amount of Public Info.
Data
Map Search
Data Tree
Detailed Search

Information of the Ships
NATSUSHIMA
KAIYO
YOKOSUKA
MIRAI
KAIREI
CHIKYU
KAIMEI
SHINSEI MARU
HAKUHO MARU

Information of the Submersibles
KAIKO
SHINKAI 2000
SHINKAI 6500
DEEP TOW
HYPER-DOLPHIN
URASHIMA
YOKOSUKA DEEP TOW
6K Camera DEEP TOW
6K Sonar DEEP TOW
KM-ROV
POWER GRAB SAMPLER (SHELL)
POWER GRAB SAMPLER (CLOW)
BMS

Go to a Cruise Information

Cruise ID:

Go to a Dive Information

Dive ID:

Copyright 2011 Japan Agency for Marine-Earth Science and Technology



JAMSTEC

国立研究開発法人
海洋研究開発機構
JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

MIRAI MR11-05 Leg1 Underway Thermosalinograph

Last Modified: 2017-06-29

[ReadMe](#) [Observation Data](#) [Data Format](#)

Cruise ID: [MR11-05 Leg1](#)

Underway Thermosalinograph: Processed (DMO)-QCed

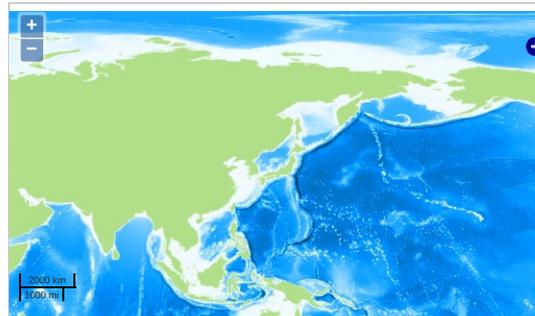
Data Policy: [JAMSTEC](#)

Observation Items: Temperature, Salinity, Dissolved oxygen

Science Keywords:

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

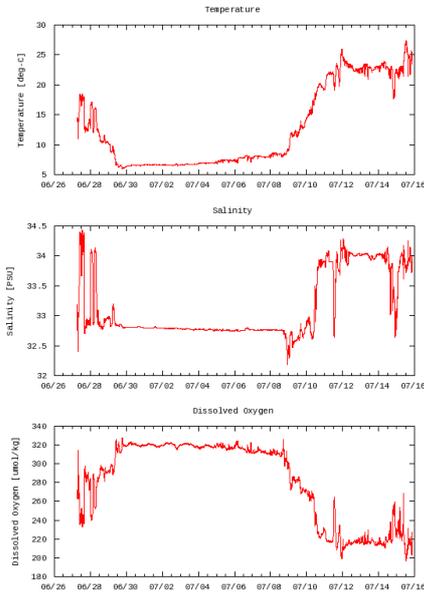
Observation Map



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

Figures

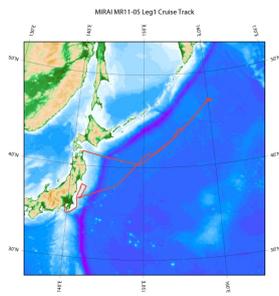
MR11-05 Leg1: Underway Thermosalino Graph



Data List

[Add to Basket](#)

<input type="checkbox"/> File names
<input type="checkbox"/> 20110627.dat
<input type="checkbox"/> 20110628.dat
<input type="checkbox"/> 20110629.dat
<input type="checkbox"/> 20110630.dat
<input type="checkbox"/> 20110701.dat
<input type="checkbox"/> 20110702.dat
<input type="checkbox"/> 20110703.dat
<input type="checkbox"/> 20110704.dat
<input type="checkbox"/> 20110705.dat
<input type="checkbox"/> 20110706.dat
<input type="checkbox"/> 20110707.dat
<input type="checkbox"/> 20110708.dat
<input type="checkbox"/> 20110709.dat
<input type="checkbox"/> 20110710.dat
<input type="checkbox"/> 20110711.dat
<input type="checkbox"/> 20110712.dat
<input type="checkbox"/> 20110713.dat
<input type="checkbox"/> 20110714.dat
<input type="checkbox"/> 20110715.dat
<input type="checkbox"/> ex_read2.f (Sample Program)



[Enlarge Image](#)

MR11-05 Leg1

Ship Name: MIRAI
 Period: 2011-06-26 - 2011-07-16
 Chief Scientist: Makio Honda (JAMSTEC)
 Project Name: [Station K2, Station KNOT]
 Proposal ▶ Effects of meso-zooplankton on food web and vertical flux
 Title:

Update History

2017-06-29	An observation data was registered.
2015-06-04	An observation data was registered.
2014-04-09	An observation data was registered.
2012-09-28	An observation data was registered.

JAMSTEC

- [Site Policy](#)
- [Privacy Policy](#)
- [Application for Data and Samples](#)
- [Data Policy](#)
- [Map Search](#)
- [Data Tree](#)
- [Detailed Search](#)
- [What's New](#)
- [Update History](#)
- [Feeds](#)

Lists

- [Publication List](#)
- [Amount of Public Info.](#)
- [Data](#)
- [Map Search](#)
- [Data Tree](#)
- [Detailed Search](#)

Information of the Ships

- [NATSUSHIMA](#)
- [KAIYO](#)
- [YOKOSUKA](#)
- [MIRAI](#)
- [KAIREI](#)
- [CHIKYU](#)
- [KAIMEI](#)
- [SHINSEI MARU](#)
- [HAKUHO MARU](#)

Information of the Submersibles

- [KAIKO](#)
- [SHINKAI 2000](#)
- [SHINKAI 6500](#)
- [DEEP TOW](#)
- [HYPER-DOLPHIN](#)
- [URASHIMA](#)
- [YOKOSUKA DEEP TOW](#)
- [6K Camera DEEP TOW](#)
- [6K Sonar DEEP TOW](#)
- [KM-ROV](#)
- [POWER GRAB SAMPLER \(SHELL\)](#)
- [POWER GRAB SAMPLER \(CLOW\)](#)
- [BMS](#)

Go to a Cruise Information

Cruise ID:

Go to a Dive Information

Dive ID: