

MIRAI MR04-01 Underway Thermosalinograph

Last Modified: 2021-08-19

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

Cruise ID: [MR04-01](#)

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

[For Using Data](#)

Principal Investigator

Data Management Office

JAMSTEC / BPPT joint cruise in the Indonesian waters.

Use Constraints

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

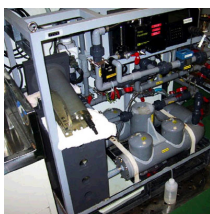
Data Citation

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

Instrument

Instrument:

Continuous sea surface water monitoring system (- MR10-03 Leg2)



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 3S, Sea-Bird Electronics, Inc.
 - Serial number : 2175
 - Measurement range : -5 to 35 deg-C (ITS-90)
 - Sensor location : Bow thruster room
- Salinity sensor
 - SEACAT THERMOSALINOGRAPH
 - Model : SBE-21, Sea-Bird Electronics, Inc.
 - Serial number : 3126
 - Measurement range : [temperature] -5 to +35 deg-C (ITS-90), [conductivity] 0 to 6.5 S/m
 - Sensor location : Sea surface monitoring laboratory
- DO sensor
 - Model : 2127A, Hach Ultra Analytics Japan Inc.
 - Serial number : 44733
 - Measurement range : 0 to 14 ppm
 - Sensor location : Sea surface monitoring laboratory

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.

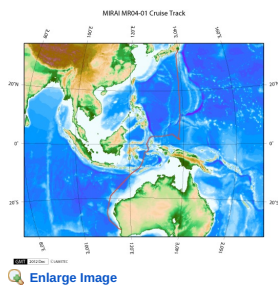
[QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA](#)

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

Note

(1) In this cruise, there is extra data (fluorescence intensity, particle size of plankton) in additional to temperature, salinity, dissolved oxygen that has been opened to the public. Please contact us from "Contact Us" above if necessary.

Related Information



MR04-01
Ship Name: MIRAI
Period: 2004-02-22 - 2004-03-22
Chief Scientist: Kunio Yoneyama (JAMSTEC)
Project Name: [MJO Research]

Update History

2021-08-19	An observation data was registered.
2017-06-29	An observation data was registered.
2016-04-07	An observation data was registered.
2014-07-24	An observation data was registered.
2014-03-08	An observation data was registered.
2012-11-25	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:

Copyright 2011 Japan Agency for Marine-Earth Science and Technology



JAMSTEC
JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

国立研究開発法人
海洋研究開発機構

MIRAI MR04-01 Underway Thermosalinograph

Last Modified: 2021-08-19

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

Cruise ID: [MR04-01](#)

Underway Thermosalinograph: Processed (DMO)-QCed

Data Policy: [JAMSTEC](#)

TSG DMO (MR98-K01 - MR10-03)

Format Description for the Corrected Data

Please see the site of each cruise.

Format Description for the QCed Data (MR98-K01 - MR10-03)

Each data file contains one line header (meta data) followed by data lines for one day.

The number of data lines are recorded in the header.

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	MYYY-(K)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	f11.4	ITS-90
6	46 - 56	Salinity	PSU	f11.4	PSS-78
7	57 - 67	Dissolved oxygen	mg/l	f11.4	
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 * reference : Definition of Quality Control Flags
9	79 - 80	Terminator	-	-	CR+LF

Definition of Quality Control Flags

1. Depth Flags

- 0 - accepted value
- 1 - error in recorded depth (same or less than previous depth)
- 2 - density inversion

2. Observed Level Flags

- N - missing value
- 0 - accepted value
- 1 - range outlier (outside of broad range check)
- 2 - failed inversion check
- 3 - failed gradient check
- 4 - zero anomaly
- 5 - failed combined gradient and inversion checks
- 6 - failed range and inversion checks
- 7 - failed range and gradient checks
- 8 - failed range and zero anomaly checks
- 9 - failed range and combined gradient and inversion checks
- A - failed visual check

* The check only about range check for Thermosalinograph data.

3. Date and time flag (Thermosalinograph only)

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

4. Position flag (Thermosalinograph only)

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

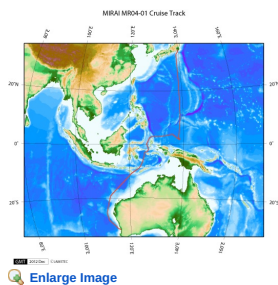
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

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

Sample Program

[ex_read.f](#)

Related Information



MR04-01
Ship Name: MIRAI
Period: 2004-02-22 - 2004-03-22
Chief Scientist: Kunio Yoneyama (JAMSTEC)
Project Name: [MJO Research]

Update History

2021-08-19	An observation data was registered.
2017-06-29	An observation data was registered.
2016-04-07	An observation data was registered.
2014-07-24	An observation data was registered.
2014-03-08	An observation data was registered.
2012-11-25	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:

Copyright 2011 Japan Agency for Marine-Earth Science and Technology



JAMSTEC
JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

国立研究開発法人
海洋研究開発機構

MIRAI MR04-01 Underway Thermosalinograph

Last Modified: 2021-08-19

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

Cruise ID: [MR04-01](#)

Underway Thermosalinograph: Processed (DMO)-QCed

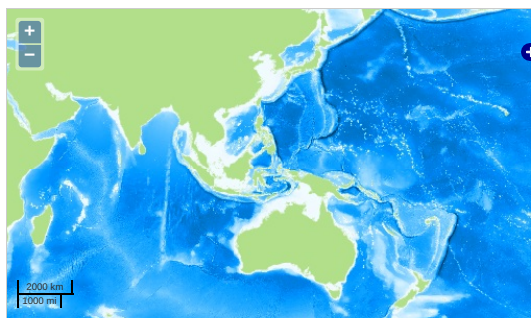
Data Policy: [JAMSTEC](#)

Observation Items: Temperature, Salinity, Dissolved oxygen

Science Keywords:

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

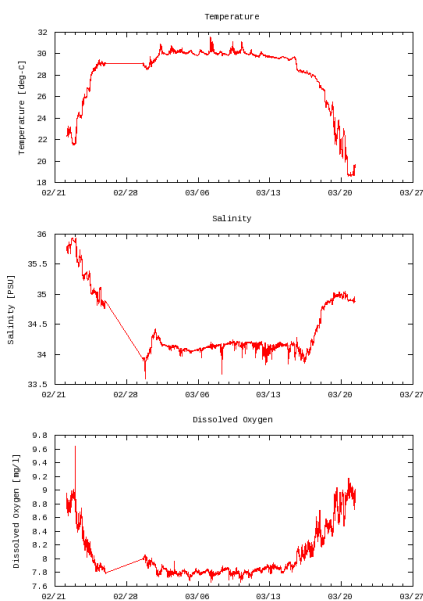
Observation Map



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

Figures

MR04-01: Underway Thermosalinograph



Data List

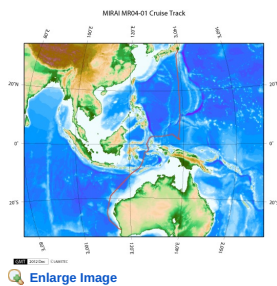
[Add to Basket](#)

☐ File names

<input type="checkbox"/>	20040222.dat
<input type="checkbox"/>	20040223.dat
<input type="checkbox"/>	20040224.dat
<input type="checkbox"/>	20040225.dat
<input type="checkbox"/>	20040229.dat
<input type="checkbox"/>	20040301.dat
<input type="checkbox"/>	20040302.dat
<input type="checkbox"/>	20040303.dat
<input type="checkbox"/>	20040304.dat
<input type="checkbox"/>	20040305.dat
<input type="checkbox"/>	20040306.dat
<input type="checkbox"/>	20040307.dat
<input type="checkbox"/>	20040308.dat
<input type="checkbox"/>	20040309.dat
<input type="checkbox"/>	20040310.dat
<input type="checkbox"/>	20040311.dat

File names
<input type="checkbox"/> 20040312.dat
<input type="checkbox"/> 20040313.dat
<input type="checkbox"/> 20040314.dat
<input type="checkbox"/> 20040315.dat
<input type="checkbox"/> 20040316.dat
<input type="checkbox"/> 20040317.dat
<input type="checkbox"/> 20040318.dat
<input type="checkbox"/> 20040319.dat
<input type="checkbox"/> 20040320.dat
<input type="checkbox"/> 20040321.dat
<input type="checkbox"/> ex_read.f (Sample Program)

Related Information



MR04-01

Ship Name: MIRAI
 Period: 2004-02-22 - 2004-03-22
 Chief Scientist: Kunio Yoneyama (JAMSTEC)
 Project Name: [MJO Research]

Update History

2021-08-19	An observation data was registered.
2017-06-29	An observation data was registered.
2016-04-07	An observation data was registered.
2014-07-24	An observation data was registered.
2014-03-08	An observation data was registered.
2012-11-25	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:

