

MIRAI MR03-K04 Leg3 Underway Thermosalinograph

Last Modified: 2017-06-29

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

Cruise ID: [MR03-K04 Leg3](#)

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

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR03-K04_leg3_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 (- MR10-03 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 : 2641
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

Data acquisition

Date/Time (UTC)	Start/Stop	Remarks
2003/10/19, 21:42	start	33-30.09S, 072-03.39W
2003/10/25, 22:55	stop	52-39.69S, 069-59.23W

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

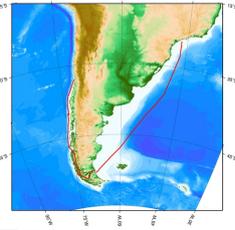
(1) In this cruise, there is extra data (fluorescence intensity, particle size of plankton) in addition to temperature, salinity, dissolved oxygen that has been opened to the public. Please contact us from "Contact Us" above if necessary.

About this data

Please see the Data book for details of data. ("WHP P6, A10, I3/4 REVISIT DATA BOOK" [Vol.1](#), [Vol.2](#), [Vol.3](#))

Related Information

MIRAI MR03-K04 Leg3 Cruise Track



[Enlarge Image](#)

MR03-K04 Leg3

Ship Name: MIRAI

Period: 2003-10-19 - 2003-11-02

Chief Scientist: Naomi Harada (JAMSTEC)

Project Name: [Paleoceanography Research, Blue Earth Global Expedition 2003]

Update History

2017-06-29	An observation data was registered.
2017-04-11	An observation data was registered.
2014-07-24	An observation data was registered.
2014-03-08	An observation data was registered.
2012-12-25	An observation data was registered.

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Lists

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- Data**
- [Map Search](#)
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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:



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ReadMe Observation Data **Data Format**

Cruise ID: [MR03-K04 Leg3](#)
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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	MRY-(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

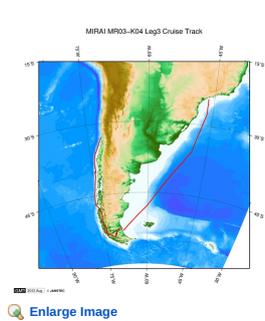
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

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

Sample Program

[ex_read.f](#)

Related Information



MR03-K04 Leg3
 Ship Name: MIRAI
 Period: 2003-10-19 - 2003-11-02
 Chief Scientist: Naomi Harada (JAMSTEC)
 Project Name: [Paleoceanography Research, Blue Earth Global Expedition 2003]

[Enlarge Image](#)

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<p>JAMSTEC Site Policy Privacy Policy Application for Data and Samples Data Policy What's New Update History Feeds</p>	<p>Lists Publication List Amount of Public Info. Data Map Search Data Tree Detailed Search</p>	<p>Information of the Ships NATSUSHIMA KAIYO YOKOSUKA MIRAI KAIREI CHIKYU KAIMEI SHINSEI MARU HAKUHO MARU</p>	<p>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</p>	<p>Go to a Cruise Information Cruise ID: <input type="text"/> <input type="button" value="Go"/></p> <p>Go to a Dive Information Dive ID: <input type="text"/> <input type="button" value="Go"/></p>
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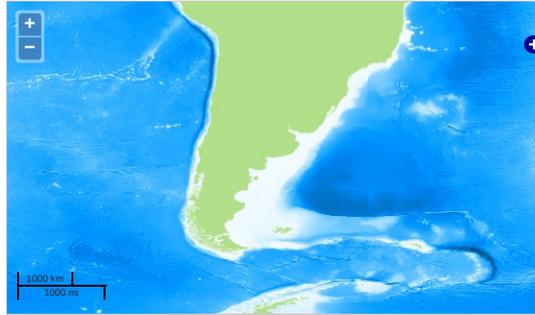
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Observation Map

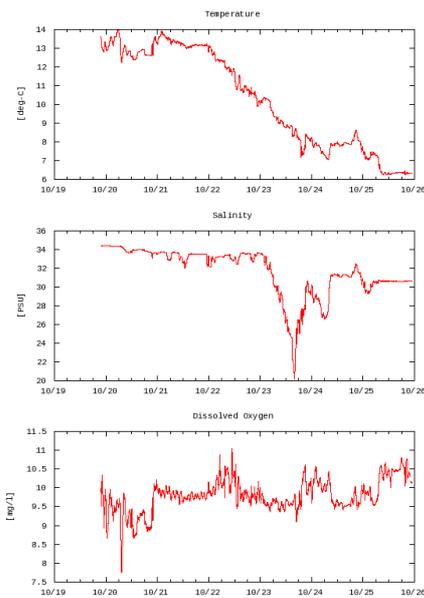


Imagery reproduced from ...

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

Figures

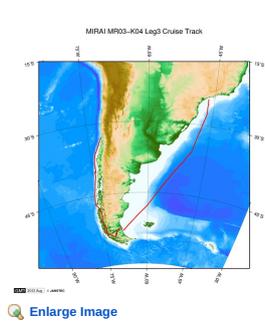
MR03-K04 Leg3: Underway Thermosalino Graph



Data List

- File names
- 20031019.dat
- 20031020.dat
- 20031021.dat
- 20031022.dat
- 20031023.dat
- 20031024.dat
- 20031025.dat
- ex_read.f (Sample Program)

Related Information



MR03-K04 Leg3

Ship Name: MIRAI
 Period: 2003-10-19 - 2003-11-02
 Chief Scientist: Naomi Harada (JAMSTEC)
 Project Name: [Paleoceanography Research, Blue Earth Global Expedition 2003]

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