

MIRAI MR05-05 Leg3 Underway Thermosalinograph

Last Modified: 2017-06-29

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

Cruise ID: **MR05-05 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
 > OCEAN > SEA SURFACE
 OCEANS TEMPERATURE TEMPERATURE

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR05-05_leg1-3_all.pdf

For Using Data

Principal Investigator

Yuichiro Kumamoto (JAMSTEC)
 Takeshi Kawano (JAMSTEC)

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 : 2607
 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 : 47477
 Measurement range : 0 to 14 ppm
 Sensor location : Sea surface monitoring laboratory

Data acquisition

Date/Time (UTC)	Start/Stop	Remarks
2006/01/20, 04:32	start	26-06.48N, 127-02.30E
2006/01/25, 05:47	stop	33-47.98N, 129-11.30E
2006/01/25, 07:15	start	33-56.61N, 129-22.51E
2006/01/26, 07:57	stop	35-15.96N, 130-20.41E
2006/01/26, 09:05	start	35-18.71N, 130-38.75E
2006/01/26, 09:12	stop	35-19.31N, 130-39.69E
2006/01/26, 09:40	start	35-21.72N, 130-43.34E
2006/01/27, 23:27	stop	38-25.32N, 136-36.60E

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.

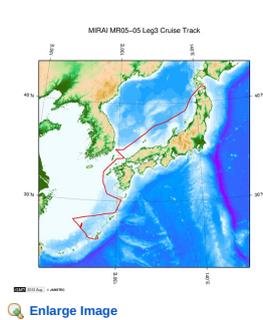
Note

(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.

Related Information



MR05-05 Leg3

Ship Name: MIRAI
Period: 2006-01-19 - 2006-01-30
Chief Scientist: Shuichi Watanabe (JAMSTEC)
Project Name: [POST-WOCE Hydrography]

Update History

2017-06-29	An observation data was registered.
2017-04-11	An observation data was registered.
2014-07-26	An observation data was registered.
2014-03-08	An observation data was registered.
2012-11-25	An observation data was registered.

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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

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MIRAI
KAIREI
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SHINSEI MARU
HAKUHO MARU

Information of the Submersibles

KAIKO
SHINKAI 2000
SHINKAI 6500
DEEP TOW
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URASHIMA
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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](#)

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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.mmm(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

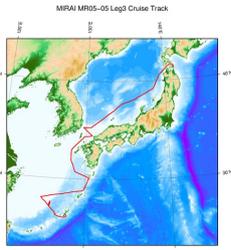
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

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

Sample Program

[ex_read.f](#)

Related Information



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- [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](#)
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- [KAIKO](#)
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- [HYPER-DOLPHIN](#)
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- [POWER GRAB](#)
- [SAMPLER \(SHELL\)](#)
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Cruise ID:

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Dive ID:

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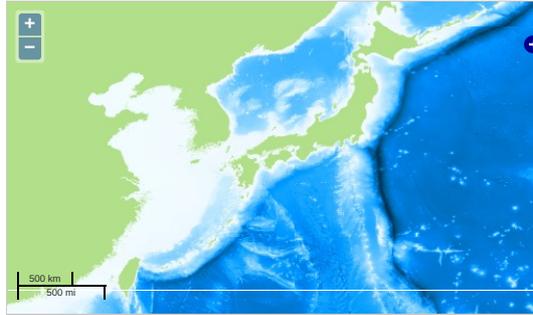
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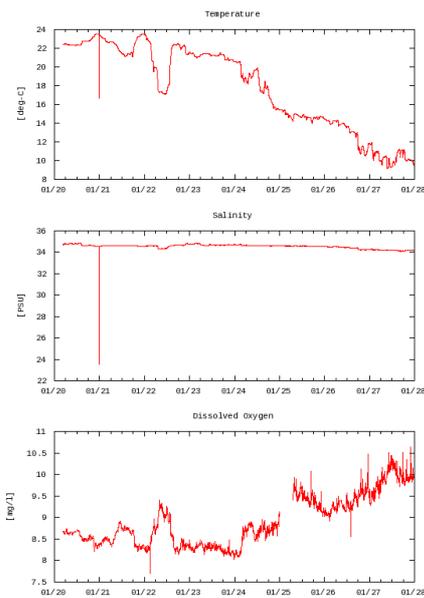
OCEANS > OCEAN CHEMISTRY > OXYGEN
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Observation Map



Figures

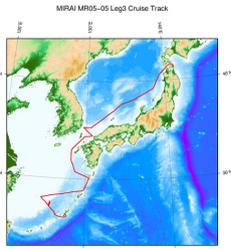
MR05-05 Leg3: Underway Thermosalino Graph



Data List

- File names
- 20060120.dat
- 20060121.dat
- 20060122.dat
- 20060123.dat
- 20060124.dat
- 20060125.dat
- 20060126.dat
- 20060127.dat
- ex_read.f (Sample Program)

Related Information



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- Data**
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- [Data Tree](#)
- [Detailed Search](#)

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