

## MIRAI MR07-04 Underway Thermosalinograph

Last Modified: 2017-06-29

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

Cruise ID: **MR07-04**

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/MR07-04\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR07-04_all.pdf)

### **For Using Data**

Principal Investigator

Yuichiro Kumamoto (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 : 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 (25 - 31 Jul.), 3126 (31 Jul. - 1 Sep.)

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
2007/07/25, 10:07	start	40-54.14N, 142-31.34E
2007/07/31, 20:49	stop	41-33.72N, 150-52.47E
2007/07/31, 22:19	start	41-33.74N, 150-52.76E
2007/08/08, 01:01	stop	40-30.21N, 143-59.20E
2007/08/10, 00:46	start	40-31.19N, 147-31.26E
2007/09/01, 17:55	stop	53-40.42N, 154-03.35W

### 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.

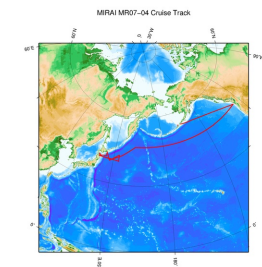
**Note**

(1) In this cruise, there is extra data (fluorescence intensity) 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**



[Enlarge Image](#)

**MR07-04**

Ship Name: MIRAI  
Period: 2007-07-24 - 2007-09-03  
Chief Scientist: Takeshi Kawano (JAMSTEC)  
Project Name: [POST-WOCE Hydrography]

**Update History**

2017-06-29	An observation data was registered.
2017-04-11	An observation data was registered.
2014-07-30	An observation data was registered.
2014-03-11	An observation data was registered.
2012-10-27	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** 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 MR07-04 Underway Thermosalinograph

Last Modified: 2017-06-29

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

Cruise ID: [MR07-04](#)

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 : <a href="#">Definition of Quality Control Flags</a>
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

MIRAI MR07-04 Cruise Track



Enlarge Image

**MR07-04**  
Ship Name: MIRAI  
Period: 2007-07-24 - 2007-09-03  
Chief Scientist: Takeshi Kawano (JAMSTEC)  
Project Name: [POST-WOCE Hydrography]

Update History	
2017-06-29	An observation data was registerd.
2017-04-11	An observation data was registerd.
2014-07-30	An observation data was registerd.
2014-03-11	An observation data was registerd.
2012-10-27	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 MR07-04 Underway Thermosalinograph

Last Modified: 2017-06-29

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

Cruise ID: [MR07-04](#)

Underway Thermosalinograph: Processed (DMO)-QCed

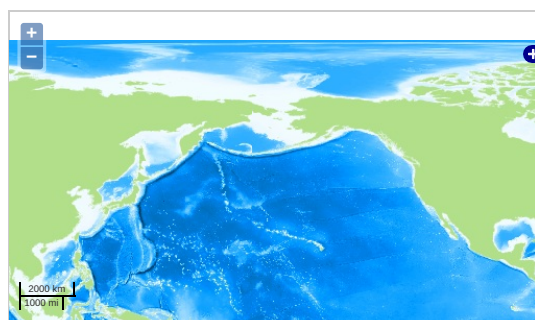
Data Policy: [JAMSTEC](#)

Observation Items: Temperature, Salinity, Dissolved oxygen

Science Keywords:

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

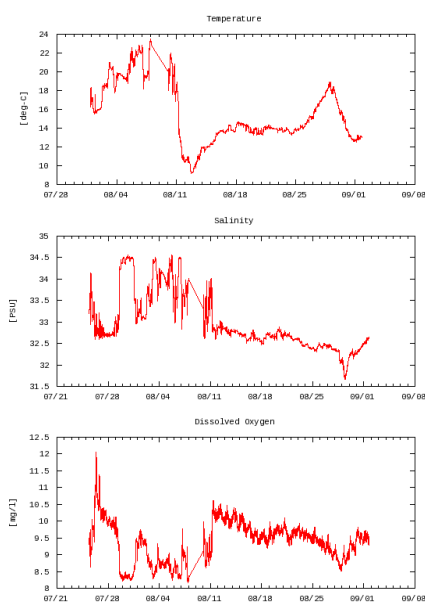
### Observation Map



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

### Figures

MR07-04: Underway Thermosalino Graph



### Data List

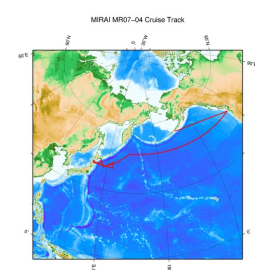
[Add to Basket](#)

☐ File names

<input type="checkbox"/>	20070725.dat
<input type="checkbox"/>	20070726.dat
<input type="checkbox"/>	20070727.dat
<input type="checkbox"/>	20070728.dat
<input type="checkbox"/>	20070729.dat
<input type="checkbox"/>	20070730.dat
<input type="checkbox"/>	20070731.dat
<input type="checkbox"/>	20070801.dat
<input type="checkbox"/>	20070802.dat
<input type="checkbox"/>	20070803.dat
<input type="checkbox"/>	20070804.dat
<input type="checkbox"/>	20070805.dat
<input type="checkbox"/>	20070806.dat
<input type="checkbox"/>	20070807.dat
<input type="checkbox"/>	20070808.dat
<input type="checkbox"/>	20070810.dat

File names
<input type="checkbox"/> 20070811.dat
<input type="checkbox"/> 20070812.dat
<input type="checkbox"/> 20070813.dat
<input type="checkbox"/> 20070814.dat
<input type="checkbox"/> 20070815.dat
<input type="checkbox"/> 20070816.dat
<input type="checkbox"/> 20070817.dat
<input type="checkbox"/> 20070818.dat
<input type="checkbox"/> 20070819.dat
<input type="checkbox"/> 20070820.dat
<input type="checkbox"/> 20070821.dat
<input type="checkbox"/> 20070822.dat
<input type="checkbox"/> 20070823.dat
<input type="checkbox"/> 20070824.dat
<input type="checkbox"/> 20070825.dat
<input type="checkbox"/> 20070826.dat
<input type="checkbox"/> 20070827.dat
<input type="checkbox"/> 20070828.dat
<input type="checkbox"/> 20070829.dat
<input type="checkbox"/> 20070830.dat
<input type="checkbox"/> 20070831.dat
<input type="checkbox"/> 20070901.dat
<input type="checkbox"/> ex_read.f (Sample Program)

#### Related Information



© 2012 JAMSTEC

[Enlarge Image](#)

#### MR07-04

Ship Name: MIRAI  
 Period: 2007-07-24 - 2007-09-03  
 Chief Scientist: Takeshi Kawano (JAMSTEC)  
 Project Name: [POST-WOCE Hydrography]

#### Update History

2017-06-29	An observation data was registerd.
2017-04-11	An observation data was registerd.
2014-07-30	An observation data was registerd.
2014-03-11	An observation data was registerd.
2012-10-27	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**  
 JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

国立研究開発法人  
 海洋研究開発機構