

## MIRAI MR00-K02 Underway Thermosalinograph

Last Modified: 2017-06-29

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

Cruise ID: [MR00-K02](#)

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

### For Using Data

#### Principal Investigator

Data Management Office

#### Use Constraints

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

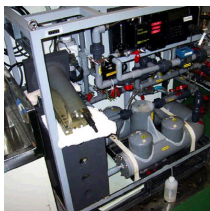
#### Data Citation

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, Orbisphere Laboratories Japan Inc.  
Serial number : 31757  
Measurement range : 0 to 14 ppm  
Sensor location : Sea surface monitoring laboratory

### Data acquisition

Date/Time (UTC)	Start/Stop	Remarks
2000/02/13, 10:03	start	37-48.29N, 141-46.26E
2000/02/17, 12:35	stop	21-47.08N, 164-11.54E
2000/02/17, 23:15	start	19-59.78N, 166-20.90E
2000/02/19, 17:44	stop	15-58.41N, 169-59.95E
2000/02/23, 03:45	start	07-04.91N, 169-59.90E
2000/02/24, 03:07	stop	05-02.02N, 165-01.36E
2000/02/24, 03:14	start	05-01.96N, 165-01.36E
2000/03/15, 02:25	stop	08-01.31N, 155-56.56E
2000/03/15, 02:37	start	08-01.34N, 155-56.57E
2000/03/16, 20:43	stop	11-42.43N, 147-47.16E
2000/03/20, 13:50	start	22-54.09N, 143-49.00E
2000/03/23, 09:05	stop	37-06.44N, 142-43.22E

### 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.

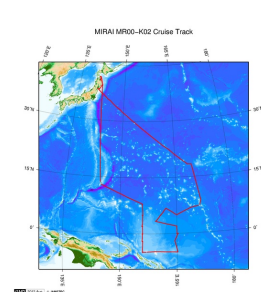
#### [QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA](#)

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.

#### Related Information



[Enlarge Image](#)

#### MR00-K02

Ship Name: MIRAI

Period: 2000-02-12 - 2000-03-25

Chief Scientist: Yoshitumi Kuroda (JAMSTEC)

Project Name: [Tropical Ocean Climate Study (TOCS)]

#### Update History

2017-06-29	An observation data was registered.
2014-07-12	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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**JAMSTEC**

国立研究開発法人  
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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	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

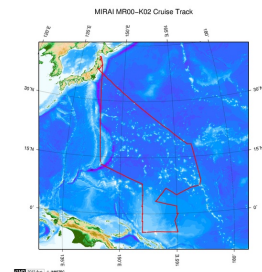
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

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

#### Sample Program

[ex\\_read.f](#)

#### Related Information



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#### MR00-K02

Ship Name: MIRAI  
Period: 2000-02-12 - 2000-03-25  
Chief Scientist: Yoshifumi Kuroda (JAMSTEC)  
Project Name: [Tropical Ocean Climate Study (TOCS)]

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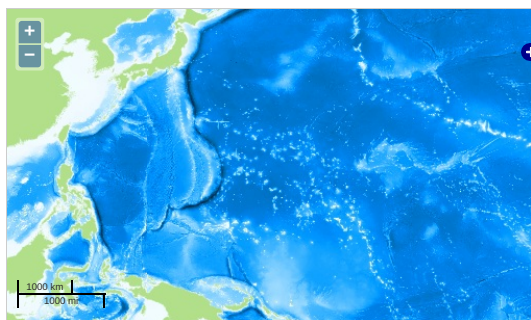
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Science Keywords:

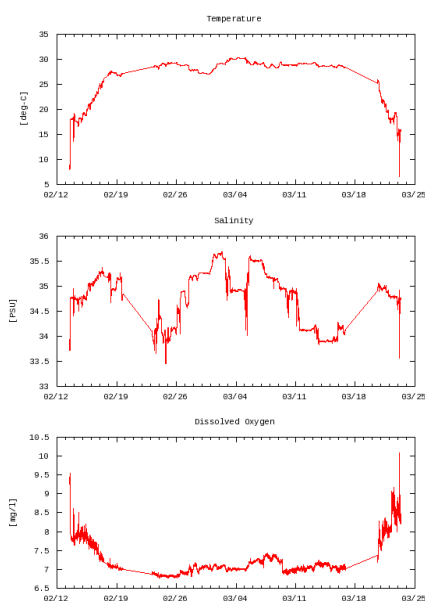
OCEANS > OCEAN CHEMISTRY > OXYGEN  
OCEANS > SALINITY/DENSITY > SALINITY  
OCEANS > OCEAN > SEA SURFACE  
OCEANS TEMPERATURE TEMPERATURE

### Observation Map



### Figures

MR00-K02: Underway Thermosalino Graph






















### Data List

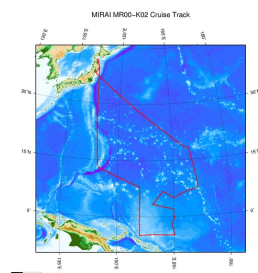
[Add to Basket](#)

☐ File names

- ☐ 20000213.dat
- ☐ 20000214.dat
- ☐ 20000215.dat
- ☐ 20000216.dat
- ☐ 20000217.dat
- ☐ 20000218.dat
- ☐ 20000219.dat
- ☐ 20000223.dat
- ☐ 20000224.dat
- ☐ 20000225.dat
- ☐ 20000226.dat
- ☐ 20000227.dat
- ☐ 20000228.dat
- ☐ 20000229.dat
- ☐ 20000301.dat
- ☐ 20000302.dat

File names
 20000303.dat
 20000304.dat
 20000305.dat
 20000306.dat
 20000307.dat
 20000308.dat
 20000309.dat
 20000310.dat
 20000311.dat
 20000312.dat
 20000313.dat
 20000314.dat
 20000315.dat
 20000316.dat
 20000320.dat
 20000321.dat
 20000322.dat
 20000323.dat
 ex_read.f (Sample Program)

#### Related Information



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Chief Scientist: Yoshitumi Kuroda (JAMSTEC)  
Project Name: [Tropical Ocean Climate Study (TOCS)]

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