

## MIRAI MR00-K03 Underway Thermosalinograph

Last Modified: 2017-06-29

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

Cruise ID: **MR00-K03**

**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/MR00-K03\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR00-K03_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 : 2607  
 Measurement range : -5 to 35 deg-C (ITS-90)  
 Sensor location : Bow thruster room
- Salinity sensor  
 SEACAT THERMOSALINOGRAPH  
 Model : Model : SBE-21, Sea-Bird Electronics, Inc.  
 Serial number : 2088  
 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
2000/05/09, 05:12	start	41-32.96N, 141-24.72E
2000/05/16, 03:53	stop	46-08.13N, 150-51.83E
2000/05/16, 07:22	start	46-55.89N, 150-36.95E
2000/05/28, 23:41	stop	47-19.07N, 152-55.38E
2000/05/29, 01:33	start	47-34.63N, 152-24.14E
2000/05/30, 22:43	stop	49-21.97N, 153-00.79E
2000/05/30, 23:02	start	49-21.97N, 153-00.83E
2000/05/31, 13:29	stop	48-26.97N, 153-28.96E
2000/05/31, 14:11	start	48-17.30N, 153-33.98E
2000/06/01, 18:32	stop	49-05.04N, 157-55.06E
2000/06/01, 18:40	start	49-05.03N, 157-55.09E
2000/06/09, 00:02	stop	41-38.70N, 143-50.78E

### **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.

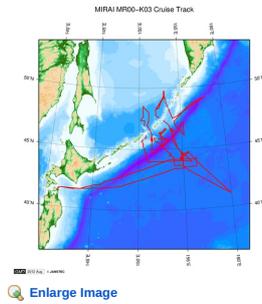
[QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA](#)

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.

#### Related Information



#### MR00-K03

Ship Name: MIRAI  
Period: 2000-05-09 - 2000-06-09  
Chief Scientist: Masashi Kusakabe (JAMSTEC)  
Project Name: [Station KNOT]

#### Update History

2017-06-29	An observation data was registerd.
2014-07-12	An observation data was registerd.
2014-03-08	An observation data was registerd.
2012-12-25	An observation data was registerd.

#### JAMSTEC

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#### Information of the Ships

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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

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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.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

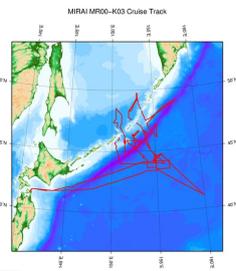
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

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

#### Sample Program

[ex\\_read.f](#)

#### Related Information



[Enlarge Image](#)

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 Chief Scientist: Masashi Kusakabe (JAMSTEC)  
 Project Name: [Station KNOT]

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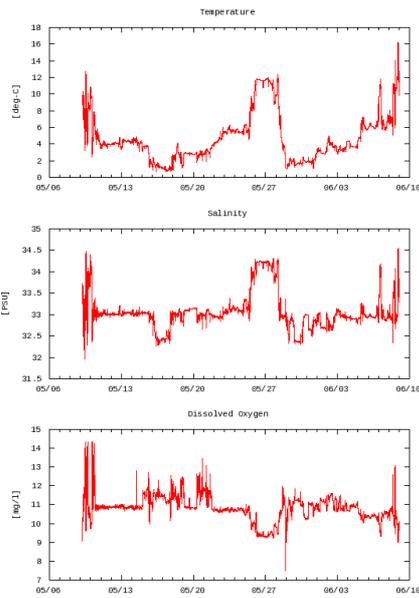
### Observation Map



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

### Figures

MR00-K03: Underway Thermosalino Graph



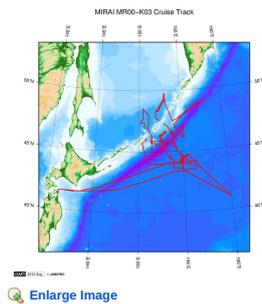
### Data List

File names

- 20000509.dat
- 20000510.dat
- 20000511.dat
- 20000512.dat
- 20000513.dat
- 20000514.dat
- 20000515.dat
- 20000516.dat
- 20000517.dat
- 20000518.dat
- 20000519.dat
- 20000520.dat
- 20000521.dat
- 20000522.dat
- 20000523.dat
- 20000524.dat

File names	
<input type="checkbox"/>	20000525.dat
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<input type="checkbox"/>	20000527.dat
<input type="checkbox"/>	20000528.dat
<input type="checkbox"/>	20000529.dat
<input type="checkbox"/>	20000530.dat
<input type="checkbox"/>	20000531.dat
<input type="checkbox"/>	20000601.dat
<input type="checkbox"/>	20000602.dat
<input type="checkbox"/>	20000603.dat
<input type="checkbox"/>	20000604.dat
<input type="checkbox"/>	20000605.dat
<input type="checkbox"/>	20000606.dat
<input type="checkbox"/>	20000607.dat
<input type="checkbox"/>	20000608.dat
<input type="checkbox"/>	20000609.dat
<input type="checkbox"/>	ex_read.f (Sample Program)

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