

MIRAI MR04-06 Underway Thermosalinograph

Last Modified: 2017-06-29

ReadMe Observation Data Data Format

Cruise ID: [MR04-06](#)

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/MR04-06_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 : 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 : 44733
Measurement range : 0 to 14 ppm
Sensor location : Sea surface monitoring laboratory

Data acquisition

Date/Time (UTC)	Start/Stop	Remarks
2004/10/17, 21:49	start	51-24.79N, 165-40.74E
2004/10/31, 02:13	stop	41-14.08N, 146-10.85E
2004/10/31, 02:16	start	41-14.21N, 146-09.81E
2004/10/31, 02:19	stop	41-14.33N, 146-08.77E
2004/10/31, 02:23	start	41-14.47N, 146-07.40E
2004/10/31, 02:28	stop	41-14.64N, 146-05.69E
2004/10/31, 02:31	start	41-14.75N, 146-04.66E
2004/10/31, 09:19	stop	41-33.57N, 143-44.27E
2004/10/31, 09:22	start	41-33.72N, 143-43.25E
2004/10/31, 09:29	stop	41-34.09N, 143-40.85E
2004/10/31, 15:26	start	42-04.20N, 141-45.47E
2004/10/31, 16:16	stop	42-09.94N, 141-41.00E
2004/10/31, 16:19	start	42-10.26N, 141-40.75E
2004/10/31, 16:24	stop	42-10.81N, 141-40.35E
2004/10/31, 16:30	start	42-11.48N, 141-39.87E

Date/Time (UTC)	Start/Stop	Remarks
2004/10/31, 16:35	stop	42-12.05N, 141-39.47E
2004/10/31, 16:41	start	42-12.73N, 141-38.96E
2004/10/31, 16:42	stop	42-12.84N, 141-38.87E
2004/10/31, 16:45	start	42-13.18N, 141-38.60E
2004/10/31, 18:07	stop	42-15.28N, 141-31.65E
2004/10/31, 18:49	start	42-13.24N, 141-34.33E
2004/10/31, 18:51	stop	42-13.37N, 141-34.63E
2004/10/31, 18:55	start	42-13.61N, 141-35.23E
2004/10/31, 19:02	stop	42-14.03N, 141-36.20E
2004/10/31, 19:05	start	42-14.25N, 141-36.59E
2004/10/31, 20:24	stop	42-11.62N, 141-45.78E
2004/10/31, 20:29	start	42-10.89N, 141-45.81E
2004/10/31, 20:45	stop	42-09.47N, 141-43.77E
2004/10/31, 20:48	start	42-09.25N, 141-43.36E
2004/10/31, 23:49	stop	42-08.63N, 141-42.03E
2004/10/31, 23:56	start	42-08.47N, 141-41.85E
2004/11/01, 05:32	stop	42-13.99N, 141-37.11E
2004/11/01, 23:30	start	42-04.85N, 141-41.79E
2004/11/02, 01:38	stop	41-38.71N, 141-56.60E
2004/11/02, 11:31	start	41-12.70N, 142-16.77E
2004/11/05, 02:17	stop	42-05.91N, 142-01.52E
2004/11/05, 03:29	start	41-55.49N, 142-02.34E
2004/11/06, 06:48	stop	40-55.62N, 142-06.63E

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

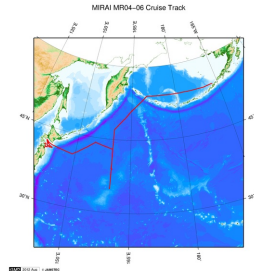
Please see the site of NODC of the following link for quality control procedure in detail.

[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	
 <p>Enlarge Image</p>	<p>MR04-06 Ship Name: MIRAI Period: 2004-10-14 - 2004-11-09 Chief Scientist: Makio Honda (JAMSTEC) Project Name: [Station K2, Station KNOT]</p>
Update History	
2017-06-29	An observation data was registered.
2014-07-24	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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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 : 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](#)

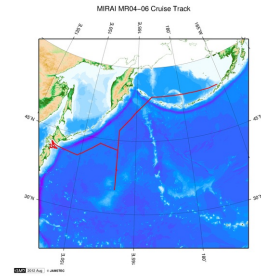
Sample Program

[ex_read.f](#)

Related Information

MR04-06

Ship Name: MIRAI
Period: 2004-10-14 - 2004-11-09
Chief Scientist: Makio Honda (JAMSTEC)
Project Name: [Station K2, Station KNOT]



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[6K Camera DEEP TOW](#)
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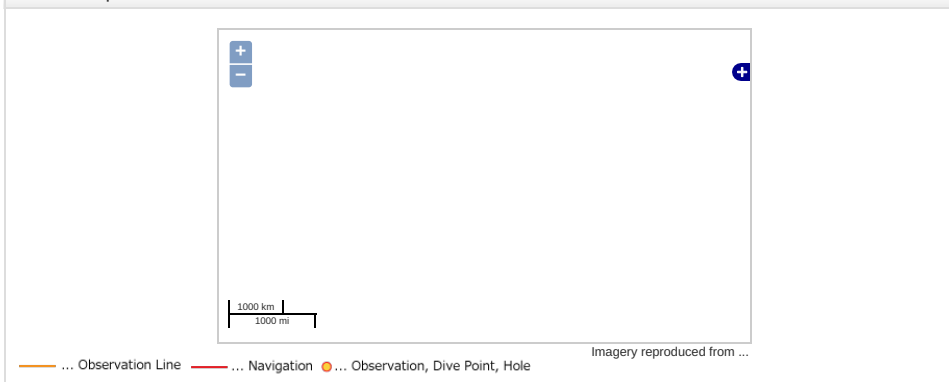
Data Policy: [JAMSTEC](#)

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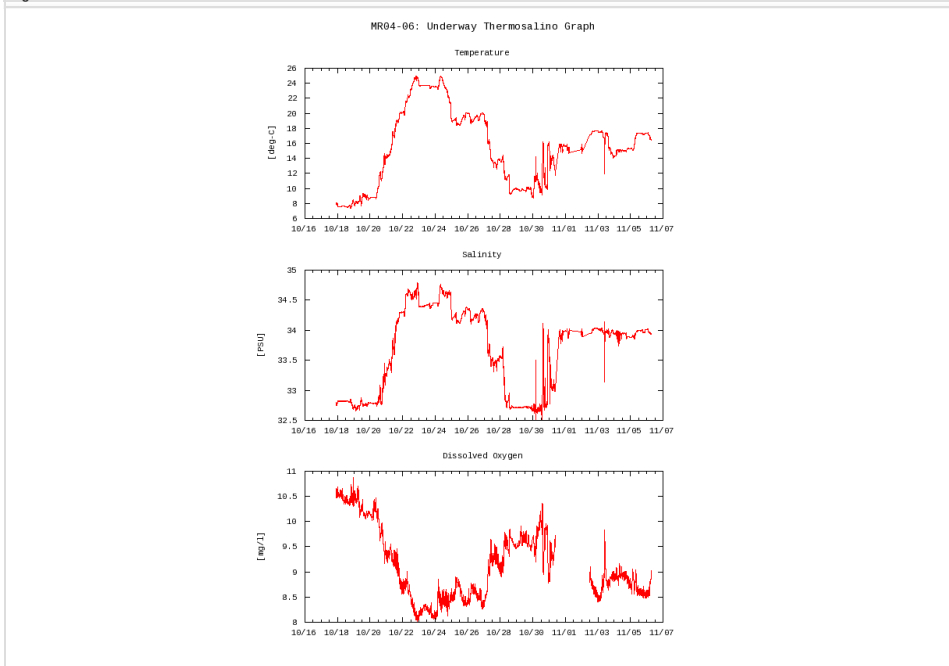
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OCEANS TEMPERATURE TEMPERATURE

Observation Map



Figures



Data List

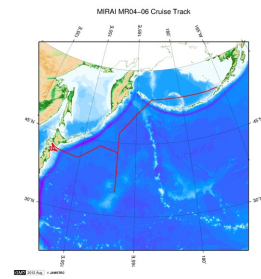
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☐ File names

<input type="checkbox"/>	20041017.dat
<input type="checkbox"/>	20041018.dat
<input type="checkbox"/>	20041019.dat
<input type="checkbox"/>	20041020.dat
<input type="checkbox"/>	20041021.dat
<input type="checkbox"/>	20041022.dat
<input type="checkbox"/>	20041023.dat
<input type="checkbox"/>	20041024.dat
<input type="checkbox"/>	20041025.dat
<input type="checkbox"/>	20041026.dat
<input type="checkbox"/>	20041027.dat
<input type="checkbox"/>	20041028.dat
<input type="checkbox"/>	20041029.dat
<input type="checkbox"/>	20041030.dat
<input type="checkbox"/>	20041031.dat
<input type="checkbox"/>	20041101.dat

File names
<input type="checkbox"/> 20041102.dat
<input type="checkbox"/> 20041103.dat
<input type="checkbox"/> 20041104.dat
<input type="checkbox"/> 20041105.dat
<input type="checkbox"/> 20041106.dat
<input type="checkbox"/> ex_read.f (Sample Program)

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