

MIRAI MR98-05 Underway Thermosalinograph

Last Modified: 2018-04-30

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

Cruise ID: **MR98-05**

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

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 / Salinity sensor
 SEACAT (Thermosalinograph)
 Model : SBE-21, Sea-Bird Electronics, Inc.
 Serial number : 2113117-2088
 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 : 2127, Oubisufair Laboratories Japan INC.
 Serial number : 31757
 Measurement range : 0 to 14 ppm
 Sensor location : Sea surface monitoring laboratory

Number of significant figures of data

The accuracy of the sensors are as following.

Data	Raw / On this web site
Temperature	0.0001 [deg-C]
Salinity	0.0001 [PSU]
Dissolved oxygen	0.0001 [mg/l]

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

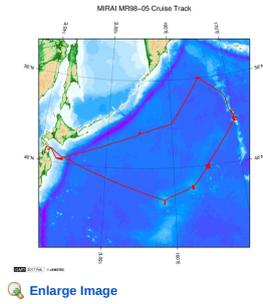
Please see the site of NODC of the following link for quality control procedure in detail.

[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.

Related Information

MR98-05
Ship Name: MIRAI
Period: 1998-07-05 - 1998-07-23



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Update History

2018-04-30	An observation data was registerd.
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- YOKOSUKA
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- KAIREI
- CHIKYU
- KAIIMEI
- 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:

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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 : 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.

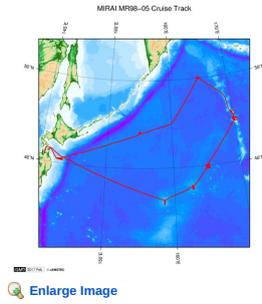
[QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA](#)

Sample Program

[ex_read.f](#)

Related Information

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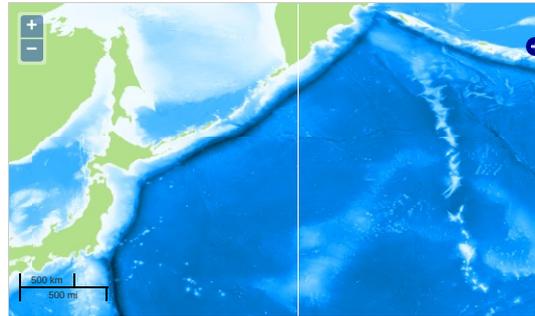
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OCEANS TEMPERATURE TEMPERATURE

Observation Map

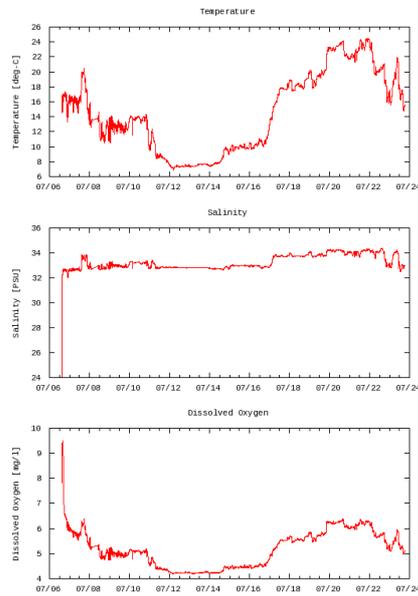


... Observation Line ... Navigation ... Observation, Dive Point, Hole

Imagery reproduced from ...

Figures

MR98-05: Underway Thermosalino Graph

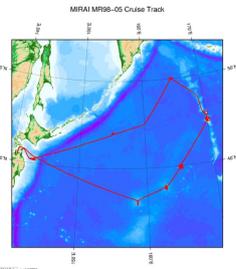


Data List

Add to Basket

- | <input type="checkbox"/> | File names |
|--------------------------|----------------------------|
| <input type="checkbox"/> | 19980706.dat |
| <input type="checkbox"/> | 19980707.dat |
| <input type="checkbox"/> | 19980708.dat |
| <input type="checkbox"/> | 19980709.dat |
| <input type="checkbox"/> | 19980710.dat |
| <input type="checkbox"/> | 19980711.dat |
| <input type="checkbox"/> | 19980712.dat |
| <input type="checkbox"/> | 19980713.dat |
| <input type="checkbox"/> | 19980714.dat |
| <input type="checkbox"/> | 19980715.dat |
| <input type="checkbox"/> | 19980716.dat |
| <input type="checkbox"/> | 19980717.dat |
| <input type="checkbox"/> | 19980718.dat |
| <input type="checkbox"/> | 19980719.dat |
| <input type="checkbox"/> | 19980720.dat |
| <input type="checkbox"/> | 19980721.dat |
| <input type="checkbox"/> | 19980722.dat |
| <input type="checkbox"/> | 19980723.dat |
| <input type="checkbox"/> | ex_read.f (Sample Program) |

Related Information



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