

MIRAI MR02-K05 Leg1 Underway Thermosalinograph

Last Modified: 2017-06-29

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Cruise ID: [MR02-K05 Leg1](#)

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/MR02-K05_leg1_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 : 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 : 44733
 Measurement range : 0 to 14 ppm
 Sensor location : Sea surface monitoring laboratory

Data acquisition

Date/Time (UTC)	Start/Stop	Remarks
2002/09/02, 21:39	start	54-41.51N, 168-07.54W
2002/09/05, 01:58	stop	66-30.12N, 168-30.10W
2002/09/05, 02:09	start	66-30.31N, 168-30.15W
2002/09/30, 00:44	stop	70-15.59N, 142-08.74W
2002/09/30, 00:50	start	70-16.28N, 142-12.27W
2002/10/04, 00:54	stop	76-01.78N, 164-11.00W
2002/10/04, 01:06	start	76-01.71N, 164-11.30W
2002/10/10, 01:57	stop	54-58.52N, 166-56.24W

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



MIRAI MR02-K05 Leg1 Cruise Track

[Enlarge Image](#)

MR02-K05 Leg1
Ship Name: MIRAI
Period: 2002-08-24 - 2002-10-10
Chief Scientist: Akihiko Murata (JAMSTEC)/Koji Shimada (JAMSTEC)
Project Name: [Arctic Ocean Climate System Research]

Update History

2017-06-29	An observation data was registered.
2014-07-18	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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KAIYO
YOKOSUKA
MIRAI
KAIREI
CHIKYU
KAIMEI
SHINSEI MARU
HAKUHO MARU

Information of the Submersibles
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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 : 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

MIRAI MR02-K05 Leg1 Cruise Track



[Enlarge Image](#)

MR02-K05 Leg1

Ship Name: MIRAI
 Period: 2002-08-24 - 2002-10-10
 Chief Scientist: Akihiko Murata (JAMSTEC)/Koji Shimada (JAMSTEC)
 Project Name: [Arctic Ocean Climate System Reaserch]

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JAMSTEC 国立研究開発法人
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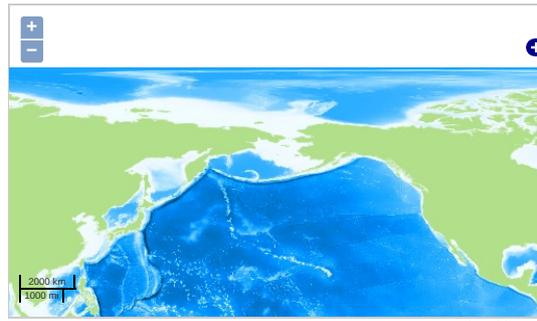
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Science Keywords:

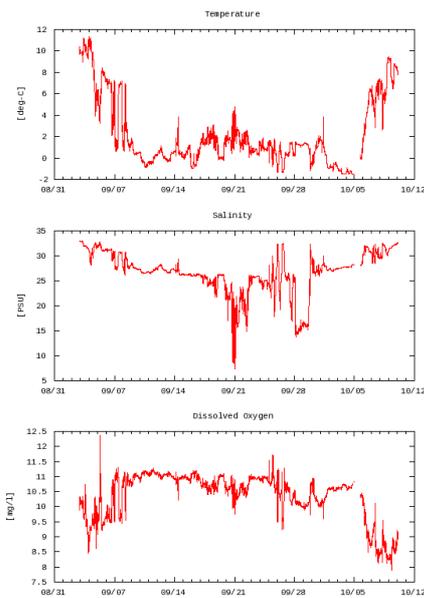
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 OCEANS > OCEAN > SEA SURFACE
 OCEANS TEMPERATURE TEMPERATURE

Observation Map



Figures

MR02-K05 Leg1: Underway Thermosalino Graph



Data List

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<input type="checkbox"/> 20021007.dat
<input type="checkbox"/> 20021008.dat
<input type="checkbox"/> 20021009.dat
<input type="checkbox"/> 20021010.dat
<input type="checkbox"/> ex_read.f (Sample Program)

Related Information



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