MIRAI MR10-05 Leg2 Underway Thermosalinograph

Last Modified: 2017-06-29

ReadMe | Observation Data | Data Format

Cruise ID: **MR10-05 Leg2**

Underway Thermosalinograph: Processed (DMO)-QCed

Data Policy: **JAMSTEC**

Observation Items: Dissolved OXYGEN, Temperature, Salinity

Science Keywords:

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

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR10-05_leg1-2_all.pdf

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ℹ️ **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 (MR10-04 Leg1 - MR14-02)

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-38, Sea-Bird Electronics,Inc.

  Serial number : 3857820-0540

  Measurement range : -5 to 35 deg-C (ITS-90)

  Sensor location : Bow thruster room

- Salinity sensor

  MicroTSG (Thermosalinograph)

  Model : SBE-45, Sea-Bird Electronics,Inc.

  Serial number : 4557820-0319

  Measurement range : [temperature] -5 to +35 deg-C (ITS-90), [conductivity] 0 to 7 S/m

  Sensor location : Sea surface monitoring laboratory

- DO sensor

  Model : OPTODE 3835, AANDERAA Instruments.

  Serial number : 1233

  Measurement range : 0 to 500 umol dcum

  Sensor location : Sea surface monitoring laboratory

Number of significant figures of data

After considering the accuracy of the sensors, the significant digit of data was changed as in the following list.

Data	Raw (ASCII data)	On this web site
Temperature	0.0001 [deg-C]	0.001 [deg-C]
Salinity	0.0001 [PSU]	0.001 [PSU]
Dissolved oxygen	0.01 [umol/kg]	0.1 [umol/kg]

* The unit of the dissolved oxygen was changed from ml/l into umol/kg since MR10-04.

Data acquisition

Date/Time (UTC)	Start/Stop		Remarks
2010/09/02, 19:17	start	54-06.81N, 166-31.28W	
2010/09/13, 00:20	stop	71-46.05N, 154-52.88W	
2010/09/13, 00:54	start	71-42.78N, 155-12.55W	
2010/09/23, 13:55	stop	78-12.30N, 164-59.29W	
2010/09/23, 13:58	start	78-12.90N, 164-59.24W	
2010/09/23, 14:48	stop	78-22.48N, 165-02.32W	

2010/09/23, 16:28	start	78-32.90N, 164-59.30W
2010/09/26, 06:35	stop	76-23.55N, 154-43.07W
2010/09/26, 07:36	start	76-23.52N, 154-44.55W
2010/09/28, 02:35	stop	72-59.91N, 161-59.31W
2010/09/28, 02:55	start	72-59.84N, 161-59.77W
2010/10/12, 06:53	stop	69-30.81N, 168-57.31W
2010/10/12, 07:16	start	69-29.82N, 168-57.80W
2010/10/15, 23:26	stop	56-25.25N, 166-44.51W

＊maintenance and problems are listed in Table 4.3-1 of cruise report.

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

MIRAI MR10-05 Leg2 Cruise Track

MR10-05 Leg2
Ship Name: MIRAI
Period: 2010-09-02 - 2010-10-16
Chief Scientist: Motoyo Ito (JAMSTEC)
Project Name: [Arctic Ocean Climate System Reaserch]
Proposal ▶ Arctic Climate Oceanography
Title:

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Update History

2017-06-29	An observation data was registerd.
2015-06-04	An observation data was registerd.
2015-04-10	An observation data was registerd.
2014-04-09	An observation data was registerd.

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TSG DMO

Format Description for the QCed Data

Each data file contains one line header and daily observation data.

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	e.g. MRYY-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	f11.3	ITS-90
6	46 - 56	Salinity	PSU	f11.3	PSS-78
7	57 - 67	Dissolved oxygen	μmol/kg	f11.1	
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
9	79 - 80	Terminator	-	-	CR+LF

* This format has been applied since MR10-04 cruise of R/V Mirai.

* Temperature, Salinity, Dissolved oxygen: Missing value is presented by '-5', and error value is presented by '-9'.

Definition of Quality Control Flags

1. Observed Level Flags

    0 - accepted value

    1 - range outlier (outside of broad range check)

    A - doubtful value

    N - missing value

2. Date and time flag (Thermosalinograph only)

    0 - accepted data and time

    1 - failed duplicate/missing/incorrect date and time

3. Position flag (Thermosalinograph only)

    0 - accepted position

   1 - failed estimated ship speed check including missing/incorrect position

For details about range set of temperature, salinity and oxygen data, please refer the web site of NODC (National Oceanographic Data Center) from the following link for quality control procedure.

QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA

Sample Program

ex_read2.f

Related Information

MIRAI MR10-05 Leg2 Cruise Track
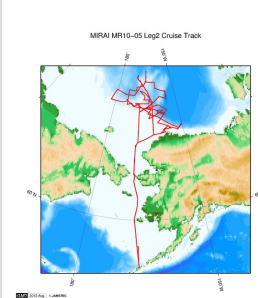
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MR10-05 Leg2
Ship Name: MIRAI
Period: 2010-09-02 - 2010-10-16
Chief Scientist: Motoyo Ito (JAMSTEC)
Project Name: [Arctic Ocean Climate System Reaserch]
Proposal   ▶ Arctic Climate Oceanography
Title:

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Data Policy

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Publication List

Amount of Public Info.

Data

Map Search

Data Tree

Detailed Search

Information of the Ships

NATSUSHIMA

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

Go to a Cruise Information

Cruise ID: [   ] [Go]

Go to a Dive Information

Dive ID: [---- ▼] [   ] [Go]

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DARWIN
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Cruise ID: **MR10-05 Leg2**
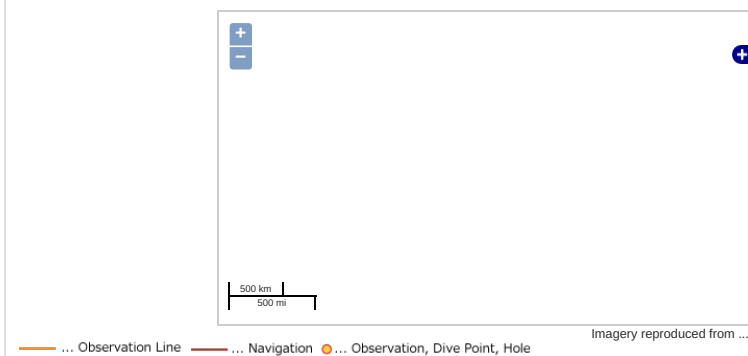
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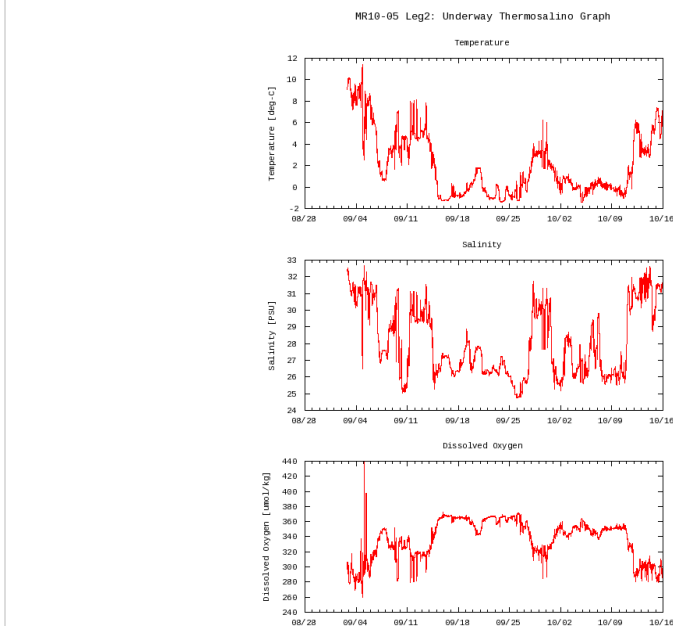
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Observation Map

500 km
500 mi

Imagery reproduced from ...

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

Figures

MR10-05 Leg2: Underway Thermosalino Graph

Data List

Add to Basket

	File names
☐	20100902.dat
☐	20100903.dat
☐	20100904.dat
☐	20100905.dat
☐	20100906.dat
☐	20100907.dat
☐	20100908.dat
☐	20100909.dat
☐	20100910.dat
☐	20100911.dat
☐	20100912.dat
☐	20100913.dat
☐	20100914.dat
☐	20100915.dat
☐	20100916.dat
☐	20100917.dat
☐	20100918.dat

	File names
☐	20100919.dat
☐	20100920.dat
☐	20100921.dat
☐	20100922.dat
☐	20100923.dat
☐	20100924.dat
☐	20100925.dat
☐	20100926.dat
☐	20100927.dat
☐	20100928.dat
☐	20100929.dat
☐	20100930.dat
☐	20101001.dat
☐	20101002.dat
☐	20101003.dat
☐	20101004.dat
☐	20101005.dat
☐	20101006.dat
☐	20101007.dat
☐	20101008.dat
☐	20101009.dat
☐	20101010.dat
☐	20101011.dat
☐	20101012.dat
☐	20101013.dat
☐	20101014.dat
☐	20101015.dat
☐	ex_read2.f (Sample Program)

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