

## MIRAI MR99-K05 Leg2 Underway Thermosalinograph

Last Modified: 2017-06-29

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

Cruise ID: [MR99-K05 Leg2](#)

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

### [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 : 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               |
|-------------------|------------|-----------------------|
| 1999/09/12, 17:15 | start      | 58-41.31N, 167-38.17W |
| 1999/09/13, 03:33 | stop       | 61-21.98N, 168-15.41W |
| 1999/09/13, 03:45 | start      | 61-25.14N, 168-15.26W |
| 1999/09/13, 03:58 | stop       | 61-28.56N, 168-15.09W |
| 1999/09/13, 04:03 | start      | 61-29.89N, 168-15.01W |
| 1999/09/13, 04:03 | stop       | 61-29.89N, 168-15.01W |
| 1999/09/13, 04:08 | start      | 61-31.21N, 168-14.94W |
| 1999/09/15, 04:23 | stop       | 71-27.48N, 157-09.28W |
| 1999/09/15, 04:45 | start      | 71-30.01N, 156-53.54W |
| 1999/09/15, 04:53 | stop       | 71-30.92N, 156-47.83W |
| 1999/09/15, 05:33 | start      | 71-35.03N, 156-18.62W |
| 1999/09/22, 17:31 | stop       | 71-32.57N, 156-09.73W |
| 1999/09/22, 17:42 | start      | 71-30.99N, 156-16.75W |
| 1999/09/22, 17:48 | stop       | 71-30.13N, 156-20.50W |
| 1999/09/22, 17:59 | start      | 72-00.38N, 150-49.25W |
| 1999/09/22, 17:59 | stop       | 72-00.38N, 150-49.25W |
| 1999/09/22, 19:37 | start      | 71-25.54N, 156-58.98W |

| Date/Time (UTC)   | Start/Stop | Remarks               |
|-------------------|------------|-----------------------|
| 1999/09/22, 20:03 | start      | 71-23.93N, 157-05.21W |
| 1999/09/22, 23:46 | stop       | 71-10.10N, 159-16.09W |
| 1999/09/23, 00:10 | start      | 71-07.78N, 159-34.45W |
| 1999/09/29, 13:12 | stop       | 44-51.25N, 155-47.27E |
| 1999/09/30, 07:53 | start      | 42-36.46N, 149-55.89E |
| 1999/10/02, 22:15 | stop       | 42-47.11N, 144-17.04E |

**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](#)

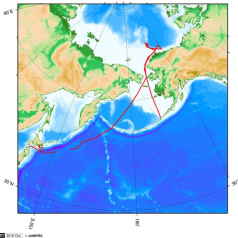
In addition, an abnormal value is identified by a visual check, and the data after visual QC is released.

**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.

**About this data**

Please see the [Data book](#) for details of data.

| Related Information   |   |
|---|---|
|  <p>MIRAI MR99-K05 Leg2 Cruise Track</p> <p><a href="#">Enlarge Image</a></p> | <p><b>MR99-K05 Leg2</b></p> <p>Ship Name: MIRAI</p> <p>Period: 1999-09-11 - 1999-10-05</p> <p>Chief Scientist: Takatoshi Takizawa (JAMSTEC)</p> <p>Project Name: [Arctic Ocean Climate System Reaserch]</p> |
| Update History  |   |
| 2017-06-29  | An observation data was registerd.  |
| 2017-04-11  | An observation data was registerd.  |
| 2016-10-17  | An observation data was registerd.  |

|   |  |   |   |   |
|---|--|---|---|---|
| <p><b>JAMSTEC</b></p> <p>Site Policy</p> <p>Privacy Policy</p> <p>Application for Data and Samples</p> <p>Data Policy</p> <p><b>What's New</b></p> <p>Update History</p> <p>Feeds</p> | <p><b>Lists</b></p> <p>Publication List</p> <p>Amount of Public Info.</p> <p><b>Data</b></p> <p>Map Search</p> <p>Data Tree</p> <p>Detailed Search</p> | <p><b>Information of the Ships</b></p> <p>NATSUSHIMA</p> <p>KAIYO</p> <p>YOKOSUKA</p> <p>MIRAI</p> <p>KAIREI</p> <p>CHIKYU</p> <p>KAIMEI</p> <p>SHINSEI MARU</p> <p>HAKUHO MARU</p> | <p><b>Information of the Submersibles</b></p> <p>KAIKO</p> <p>SHINKAI 2000</p> <p>SHINKAI 6500</p> <p>DEEP TOW</p> <p>HYPER-DOLPHIN</p> <p>URASHIMA</p> <p>YOKOSUKA DEEP TOW</p> <p>6K Camera DEEP TOW</p> <p>6K Sonar DEEP TOW</p> <p>KM-ROV</p> <p>POWER GRAB</p> <p>SAMPLER (SHELL)</p> <p>POWER GRAB</p> <p>SAMPLER (CLOW)</p> <p>BMS</p> | <p><b>Go to a Cruise Information</b></p> <p>Cruise ID: <input type="text"/> <input type="button" value="Go"/></p> <p><b>Go to a Dive Information</b></p> <p>Dive ID: <input type="text"/> <input type="button" value="Go"/></p> |
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## MIRAI MR99-K05 Leg2 Underway Thermosalinograph

Last Modified: 2017-06-29

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 Cruise ID: [MR99-K05 Leg2](#)

Underway Thermosalinograph: Processed (DMO)-QCed

 Data Policy: [JAMSTEC](#)

### 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<br>7 : flag of date/time<br>8 : flag of latitude/longitude<br>9 : flag of temperature<br>10 : flag of salinity<br>11 : flag of dissolved oxygen<br>* 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

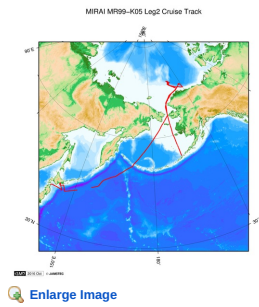
#### MR99-K05 Leg2

Ship Name: MIRAI

Period: 1999-09-11 - 1999-10-05

Chief Scientist: Takatoshi Takizawa (JAMSTEC)

Project Name: [Arctic Ocean Climate System Reaserch]



#### Update History

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#### Information of the Ships

NATSUSHIMA  
KAIYO  
YOKOSUKA  
MIRAI  
KAIREI  
CHIKYU  
KAIMEI  
SHINSEI MARU  
HAKUHO MARU

#### Information of the Submersibles

KAIKO  
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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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Cruise ID:

#### Go to a Dive Information

Dive ID:

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国立研究開発法人  
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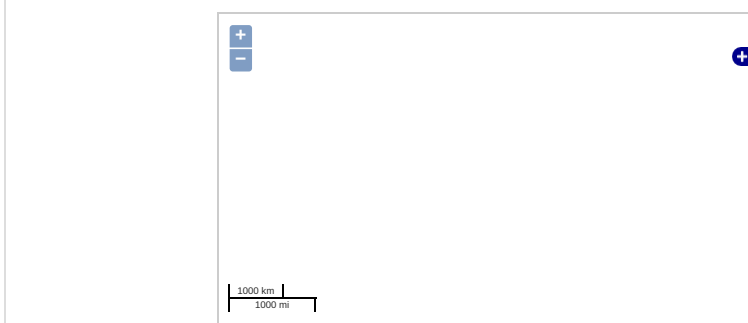
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> OCEAN > SEA SURFACE  
OCEANS TEMPERATURE TEMPERATURE

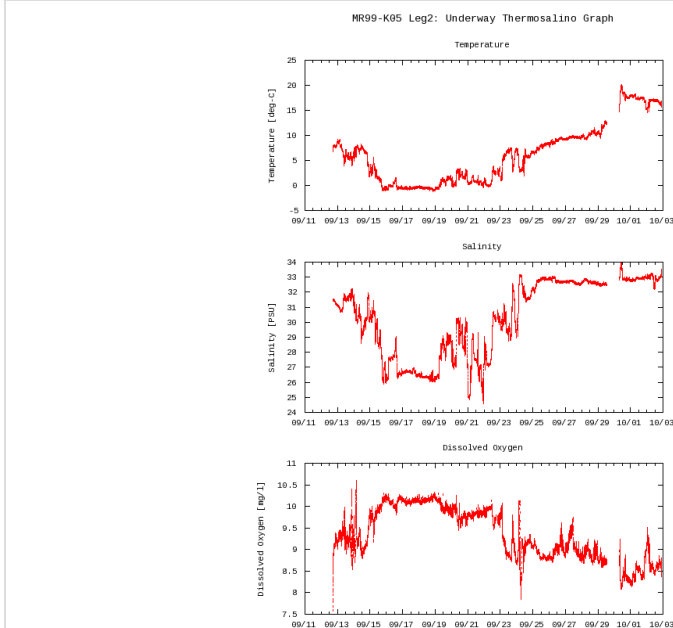
### Observation Map



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

Imagery reproduced from ...

### Figures



### Data List

[Add to Basket](#)

☐ File names

☐ 19990912.dat

☐ 19990913.dat

☐ 19990914.dat

☐ 19990915.dat

☐ 19990916.dat

☐ 19990917.dat

☐ 19990918.dat

☐ 19990919.dat

☐ 19990920.dat

☐ 19990921.dat

☐ 19990922.dat

☐ 19990923.dat

☐ 19990924.dat

☐ 19990925.dat

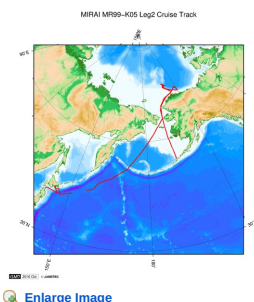
☐ 19990926.dat

☐ 19990927.dat

☐ 19990928.dat

|                          |                            |
|--------------------------|----------------------------|
| <input type="checkbox"/> | 19990929.dat               |
| <input type="checkbox"/> | 19990930.dat               |
| <input type="checkbox"/> | 19991001.dat               |
| <input type="checkbox"/> | 19991002.dat               |
| <input type="checkbox"/> | ex_read.f (Sample Program) |

#### Related Information



[Enlarge Image](#)

#### MR99-K05 Leg2

Ship Name: MIRAI  
 Period: 1999-09-11 - 1999-10-05  
 Chief Scientist: Takatoshi Takizawa (JAMSTEC)  
 Project Name: [Arctic Ocean Climate System Reaserch]

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#### Go to a Cruise Information

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