

## MIRAI MR06-01 Bottle Sampling Water Chemical Analysis

Last Modified: 2017-07-28

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

Cruise ID: **MR06-01**

Bottle Sampling Water Chemical Analysis: Processed (PI)

Data Policy: **JAMSTEC**

Observation Items: Temperature, Salinity, Dissolved oxygen, Silicate, Nitrate · Nitrite, Potential temperature, Density

Science Keywords:

OCEANS > OCEAN CHEMISTRY > NITRITE  
OCEANS > OCEAN CHEMISTRY > NITRATE  
OCEANS > OCEAN CHEMISTRY > NUTRIENTS  
OCEANS > OCEAN CHEMISTRY > OXYGEN  
OCEANS > OCEAN CHEMISTRY > SILICATE  
OCEANS > OCEAN CHEMISTRY > SALINITY  
OCEANS > OCEAN TEMPERATURE > WATER TEMPERATURE  
OCEANS > SALINITY/DENSITY > SALINITY  
OCEANS > OCEAN TEMPERATURE > POTENTIAL TEMPERATURE

Cruise Report

[http://www.godac.jamstec.go.jp/catalog/data/doc\\_catalog/media/MR06-01\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR06-01_all.pdf)

### For Using Data

#### Principal Investigator

CTDTMP : Yuji Kashino (JAMSTEC)  
CTDSAL : Yuji Kashino (JAMSTEC)  
SALNTY : -  
CTDOXY : Yuji Kashino (JAMSTEC)  
OXYGEN : -  
DWNPRS : Yuji Kashino (JAMSTEC)  
DWNNOXY : Yuji Kashino (JAMSTEC)  
SILCAT : Kiminori Shitashima (CRIEPI)  
NO2+NO3 : Kiminori Shitashima (CRIEPI)

#### Use Constraints

See [Terms and Conditions](#) about constrain of use.

#### Data Citation

See [Terms and Conditions](#) about data citation.

### Instrument

Instrument:

Salinity measurement system



Instrument:

Titration for DO ( - MR11-05 Leg2)



### Notice

In many other cruises unit of Silicate and Nitrate+Nitrite is umol/kg, however in this cruise they are measured in umol/l.

### Information on CTD data

#### (1) Temperature sensor

Model : SBE3, Sea-Bird Electronics, Inc.  
Measurement range : -5.0 to +35degC  
Accuracy : 0.001degC  
Resolution : 0.0002degC

#### (2) Salinity sensor

Model : SBE4, Sea-Bird Electronics, Inc.  
Measurement range : 0.0 to 7S/m  
Accuracy : 0.0003S/m  
Resolution : 0.00004S/m

#### (3) Pressure sensor

Model : SBE9plus, Sea-Bird Electronics, Inc.  
Measurement range : up to 10500m  
Accuracy : 0.015%F.S.  
Resolution : 0.001%F.S.

#### (4) DO sensor

Model : SBE43, Sea-Bird Electronics, Inc.  
Measurement range : 0-15ml/l(120% of surface saturation)  
Accuracy : 0.1ml/l(2% of saturation)  
Resolution : 0.01ml/l

### Information on Chemical and Biological data

#### 1. Dissolved Oxygen

- (1) Instruments :Burette:APB-510 manufactured by Kyoto Electronic Co. Ltd. /10 cm<sup>3</sup> of titration vessel  
Detector and Software: Automatic photometric titrator manufactured by Kimoto Electronic Co. Ltd
- (2) Methods :Winkler method/photometric methods
- (3) Precision : 0.134 umol kg<sup>-1</sup>
- (4) Reference Material/Calibration:0.001667M KIO<sub>3</sub> solution

## 2. Salinity

- (1) Instruments:Autosal salinometer model 8400B(Guildline Instruments Ltd.)
- (2) Methods : -
- (3) Precision : 0.0002 PSU
- (4) Reference Material/Calibration:IAPSO Standard Sea Water batch P145(Ocean Scientific International Ltd.)

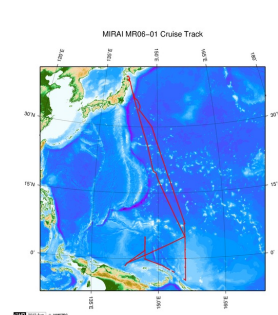
## 3. Silicate

- (1) Instruments: TRAACS2000 (Bran+Luebbe)
- (2) Methods : Molybden-yellow method
- (3) Precision : -
- (4) Reference Material/Calibration: -

## 4. Nitrate+Nitrite

- (1) Instruments: TRAACS2000 (Bran+Luebbe)
- (2) Methods : Diazotization method (reduced to nitrite by Cd - Cu tube)
- (3) Precision : -
- (4) Reference Material/Calibration: -

## Related Information



[Enlarge Image](#)

### MR06-01

Ship Name: MIRAI  
Period: 2006-02-05 - 2006-03-18  
Chief Scientist: Yuji Kashino (JAMSTEC)  
Project Name: [Tropical Ocean Climate Study (TOCS)]

## Update History

2017-07-28	An observation data was registerd.
2015-05-29	An observation data was registerd.
2013-08-28	An observation data was registerd.
2012-11-25	An observation data was registerd.

### JAMSTEC

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### Lists

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### Data

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### 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 to a Dive Information

Dive ID:



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 Cruise ID: **MR06-01**

Bottle Sampling Water Chemical Analysis: Processed (PI)

 Data Policy: **JAMSTEC**

### Exchange Format

Provided in the Exchange Format of CCHDO (CLIVAR and Carbon Hydrographic Data Office).

Please see the following link for details of Exchange Format.

[CCHDO | CLIVAR & Carbon Hydrographic Data Office](#)

Format Information

Column No.	Column Heading Mnemonic	Units Mnemonic	Reporting Precision FORTRAN Format	Comments
1	EXPCODE		A14	Expedition code
2	SECT		A6	For WOCE data the WHP section identifier
3	STNNBR		A6	Station number
4	CASTNO		I3	Cast number
5	SAMPNO		A7	Sample number
6	BTLNBR		A7	Bottle identification number
7	BTLNBR_FLAG_W		I1	Bottle quality flag
8	DATE		I8	Cast date(UTC)
9	TIME	UTC	I4	Cast time (UTC)
10	LATITUDE	DEG	F8.3	LATITUDE
11	LONGITUDE	DEG	F9.3	LONGITUDE
12	DEPTH	M	I5	Reported depth to bottom.
13	CTDDPT	M	F9.1	Depth
14	CTDDPT_FLAG_W		I1	Quality flag for CTD data
15	CTDPRS	DBAR	F9.1	Pressure
16	CTDPRS_FLAG_W		I1	Quality flag for CTD data
17	CTDTMP	ITS-90	F9.4	Temperature
18	CTDTMP_FLAG_W		I1	Quality flag for CTD data
19	CTDSAL	PSS-78	F9.4	CTD Salinity sensor
20	CTDSAL_FLAG_W		I1	Quality flag for CTD data
21	SALNTY	PSS-78	F9.4	Salinity
22	SALNTY_FLAG_W		I1	Quality flags for water samples
23	CTDOXY	UMOL/KG	F9.2	CTD Oxygen sensor
24	CTDOXY_FLAG_W		I1	Quality flag for CTD data
25	OXYGEN	UMOL/KG	F9.2	Oxygen
26	OXYGEN_FLAG_W		I1	Quality flags for water samples
27	DWNPRS	DBAR	F9.1	Down-cast pressure at the same density of the up-cast CTD data
28	DWNPRS_FLAG_W		I1	Quality flag for CTD data
29	DWNOXY	UMOL/KG	F9.2	Down-cast CTD oxygen at pressure of DWNPRS
30	DWNOXY_FLAG_W		I1	Quality flag for CTD data
31	SILCAT	UMOL/L	F9.2	Silicate
32	SILCAT_FLAG_W		I1	Quality flags for water samples
33	NO2+NO3	UMOL/L	F9.2	Nitrate+Nitrite
34	NO2+NO3_FLAG_W		I1	Quality flags for water samples
35	THETA	DEG C	F9.4	Potential temperature
36	SIG0	KG/CUM	F9.4	Density

### ODV Format

Please see the following link for details of ODV Format and ODV Software.

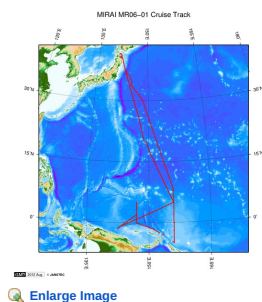
[Ocean Data View \(ODV\)](#)

Format Information

Column No.	Column Heading	Comments
1	Cruise	Cruise Label
2	Station	Station number_Cast number
3	Type	Station type
4	mon/day/yr	Cast date(UTC)
5	hh:mm	Cast time (UTC)
6	Latitude [degrees_north]	LATITUDE
7	Longitude [degrees_east]	LONGITUDE
8	Bot. Depth [m]	Reported depth to bottom.
9	CTDDPT[M]	Depth
10	QF	Quality flag for CTD data
11	CTDPRS[DBAR]	Pressure
12	QF	Quality flag for CTD data
13	CTDTMP[ITS-90]	Temperature
14	QF	Quality flag for CTD data
15	CTDSAL[PSS-78]	CTD Salinity sensor
16	QF	Quality flag for CTD data
17	SALNTY[PSS-78]	Salinity
18	QF	Quality flags for water samples
19	CTDOXY[UMOL/KG]	CTD Oxygen sensor
20	QF	Quality flag for CTD data
21	OXYGEN[UMOL/KG]	Oxygen
22	QF	Quality flags for water samples

Column No.	Column Heading	Comments
23	DWNPRES[DBAR]	Down-cast pressure at the same density of the up-cast CTD data
24	QF	Quality flag for CTD data
25	DWNOXY[UMOL/KG]	Down-cast CTD oxygen at pressure of DWNPRES
26	QF	Quality flag for CTD data
27	SILCAT[UMOL/L]	Silicate
28	QF	Quality flags for water samples
29	NO2+NO3[UMOL/L]	Nitrate+Nitrite
30	QF	Quality flags for water samples
31	THETA[DEG C]	Potential temperature
32	QF	Quality flag for CTD data
33	SIG0[KG/CUM]	Density
34	QF	Quality flag for CTD data
35	SAMPNO	Sample number
36	QF	Bottle quality flag

#### Related Information



[Enlarge Image](#)

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Chief Scientist: Yuji Kashino (JAMSTEC)  
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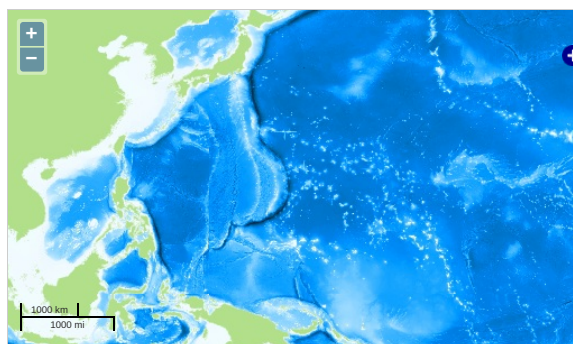
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OCEANS > OCEAN TEMPERATURE > WATER TEMPERATURE  
OCEANS > SALINITY/DENSITY > SALINITY  
OCEANS > OCEAN TEMPERATURE > POTENTIAL TEMPERATURE

### Observation Map



Imagery reproduced from ...

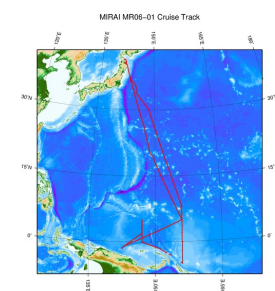
### Data List

☐ File names

☐ MR060100\_ex\_bot.csv

☐ MR060100\_odv\_bot.txt

### Related Information



[Enlarge Image](#)

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Go to a Cruise Information

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Go to a Dive Information

Dive ID:

POWER GRAB SAMPLER  
(SHELL)  
POWER GRAB SAMPLER  
(CLOW)  
BMS

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JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY