

## MIRAI MR12-05 Leg3 Bottle Sampling Water Chemical Analysis

Last Modified: 2018-01-25

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Cruise ID: [MR12-05 Leg3](#)

Bottle Sampling Water Chemical Analysis : Processed (PI)

Data Policy: [JAMSTEC](#)

Observation Items: Temperature,Salinity,Dissolved

oxygen,Transmittance,Fluorescence,Chlorophyll,PAR,Silicate,Nitrate,Nitrite,Phosphate,CFC11,CFC12,CFC113,SF6,Total inorganic carbon,Alkalinity,pH,Carbon13,Carbon14,134Cs,137Cs

Science Keywords:

OCEANS > OCEAN CHEMISTRY > DISSOLVED GASES  
OCEANS > OCEAN CHEMISTRY > INORGANIC CARBON  
OCEANS > OCEAN CHEMISTRY > NITRITE  
OCEANS > OCEAN CHEMISTRY > NITRATE  
OCEANS > OCEAN CHEMISTRY > NUTRIENTS  
OCEANS > OCEAN CHEMISTRY > OXYGEN  
OCEANS > OCEAN CHEMISTRY > pH  
OCEANS > OCEAN CHEMISTRY > PHOSPHATE  
OCEANS > OCEAN CHEMISTRY > RADIOCARBON  
OCEANS > OCEAN CHEMISTRY > SILICATE  
OCEANS > OCEAN CHEMISTRY > SALINITY  
OCEANS > OCEAN CHEMISTRY > CHLOROPHYLL  
OCEANS > OCEAN TEMPERATURE > WATER TEMPERATURE  
OCEANS > SALINITY/DENSITY > SALINITY  
OCEANS > OCEAN OPTICS > PHOTOSYNTHETICALLY ACTIVE RADIATION  
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OCEANS > OCEAN CHEMISTRY > CARBON  
OCEANS > OCEAN CHEMISTRY > RADIONUCLIDES  
OCEANS > OCEAN CHEMISTRY > OCEAN TRACERS  
OCEANS > OCEAN CHEMISTRY > STABLE ISOTOPES  
OCEANS > OCEAN OPTICS > FLUORESCENCE

Cruise Report

[http://www.godac.jamstec.go.jp/catalog/data/doc\\_catalog/media/MR12-05\\_leg1-3\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR12-05_leg1-3_all.pdf)

### For Using Data

#### Principal Investigator

CTDTMP : Hiroshi Uchida (JAMSTEC)  
SBE35 : Hiroshi Uchida (JAMSTEC)  
CTDSAL : Hiroshi Uchida (JAMSTEC)  
SALNTY : Hiroshi Uchida (JAMSTEC)  
DNSSAL : Hiroshi Uchida (JAMSTEC)  
CTDOXY : Hiroshi Uchida (JAMSTEC)  
OXYGEN : Yuichiro Kumamoto (JAMSTEC)  
XMISS : Hiroshi Uchida (JAMSTEC)  
FLUOR : Hiroshi Uchida (JAMSTEC)  
CHLORA : Osamu Yoshida (Rakuno Gakuen University) /Hiroshi Uchida (JAMSTEC)  
PAR : Hiroshi Uchida (JAMSTEC)  
SILCAT : Michio Aoyama (Meteorological Research Institute)  
NITRAT : Michio Aoyama (Meteorological Research Institute)  
NITRIT : Michio Aoyama (Meteorological Research Institute)  
PHSPHT : Michio Aoyama (Meteorological Research Institute)  
CFC-11 : Kenichi Sasaki (JAMSTEC)  
CFC-12 : Kenichi Sasaki (JAMSTEC)  
CFC113 : Kenichi Sasaki (JAMSTEC)  
SF6 : Kenichi Sasaki (JAMSTEC)  
TCARBN : Sohiko Kameyama(Hokkaido University) /Akihiko Murata (JAMSTEC)  
ALKALI : Sohiko Kameyama(Hokkaido University) /Akihiko Murata (JAMSTEC)  
PH\_TOT : Sohiko Kameyama(Hokkaido University) /Akihiko Murata (JAMSTEC)  
DELC13 : Yuichiro Kumamoto (JAMSTEC)  
DELC14 : Yuichiro Kumamoto (JAMSTEC)  
CS-134 : Yuichiro Kumamoto (JAMSTEC)  
CS-137 : Yuichiro Kumamoto (JAMSTEC)

#### 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:

Gas chromatograph



Instrument:

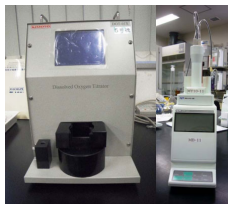
Nutrient analyzer(5ch) (MR09-02 - )



Instrument:  
Total dissolved inorganic carbon  
measurement system (MR11-05 Leg1  
- )



Instrument:  
Titrator for DO Dissolved oxygen  
titration equipment (MR11-06 - )



Instrument:  
Fluorometer (TURNER DESIGNS)



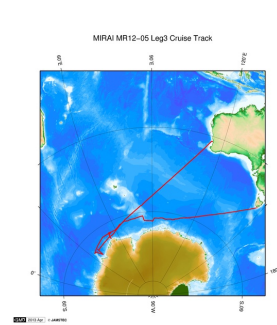
#### Overview

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

#### About this data

There are some description error for nutrient data of this cruise.  
Please refer to the errata of the cruise report.

#### Related Information



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#### MR12-05 Leg3

Ship Name: MIRAI  
Period: 2013-01-05 - 2013-02-15  
Chief Scientist: Hiroshi Uchida (JAMSTEC)  
Proposal ▶ WOCE-revisit in the western Pacific and Southern oceans  
Title:

#### Update History

2018-01-25	An observation data was registered.
2017-04-11	An observation data was registered.
2015-05-31	An observation data was registered.

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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)  
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Dive ID:

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国立研究開発法人  
海洋研究開発機構

## MIRAI MR12-05 Leg3 Bottle Sampling Water Chemical Analysis

Last Modified: 2018-01-25

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Cruise ID: [MR12-05 Leg3](#)

Bottle Sampling Water Chemical Analysis: Processed (PI)

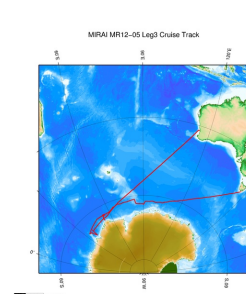
Data Policy: [JAMSTEC](#)

### DATA Format

Column No.	Column Heading Mnemonic	Units Mnemonic	Reporting Precision FORTRAN Format	Comments
1	EXPCODE		A14	ExpoCode
2	SECT		A6	Section ID
3	STNNBR		A6	Station Number
4	CASTNO		I3	Cast Number
5	SAMPNO		A7	Sample Number
6	BTLNBR		A7	Bottle Number
7	BTLNBR_FLAG_W		I1	Bottle quality flags
8	DATE		I8	Cast date
9	TIME	UTC	I4	Cast time
10	LATITUDE	DEG	F8.4	-
11	LONGITUDE	DEG	F9.4	-
12	DEPTH	METERS	I5	Bottom depth
13	CTDPRS	DBAR	F9.1	Pressure
14	CTDPRS_FLAG_W		I1	Quality flags for CTD data
15	CTDTMP	ITS-90	F9.4	Temperature
16	CTDTMP_FLAG_W		I1	Quality flags for CTD data
17	SBE35	ITS-90	F10.5	Temperature from Deep Ocean Standards Thermometer
18	SBE35_FLAG_W		I1	Quality flags for CTD data
19	CTDSAL	PSS-78	F9.4	Salinity
20	CTDSAL_FLAG_W		I1	Quality flags for CTD data
21	SALNTY	PSS-78	F9.4	Bottle Salinity
22	SALNTY_FLAG_W		I1	Quality flags for water samples
23	DNSSAL	G/KG	F9.4	Quality-controlled density salinity data
24	DNSSAL_FLAG_W		I1	Quality flags for water samples
25	CTDOXY	UMOL/KG	F9.2	Oxygen_CTD
26	CTDOXY_FLAG_W		I1	Quality flags for CTD data
27	OXYGEN	UMOL/KG	F9.2	Oxygen
28	OXYGEN_FLAG_W		I1	Quality flags for water samples
29	XMISS	%TRANS	F9.3	Transmissometer
30	XMISSCP	/METER	F9.4	Beam attenuation coefficient
31	XMISS_FLAG_W		I1	Quality flags for CTD data
32	FLUOR	MG/CUM	F9.3	Fluorescence
33	FLUOR_FLAG_W		I1	Quality flags for CTD data
34	CHLORA	MG/CUM	F9.2	Chlorophyll a
35	CHLORA_FLAG_W		I1	Quality flags for water samples
36	PAR	UE/SQM/S	F9.3	PAR
37	PAR_FLAG_W		I1	Quality flags for CTD data
38	SILCAT	UMOL/KG	F9.2	Silicate
39	SILCAT_FLAG_W		I1	Quality flags for water samples
40	SILUNC	UMOL/KG	F9.2	Uncertainty of Silicate data
41	NITRAT	UMOL/KG	F9.2	Nitrate
42	NITRAT_FLAG_W		I1	Quality flags for water samples
43	NRAUNC	UMOL/KG	F9.2	Uncertainty of Nitrate data
44	NITRIT	UMOL/KG	F9.2	Nitrite
45	NITRIT_FLAG_W		I1	Quality flags for water samples
46	NRIUNC	UMOL/KG	F9.2	Uncertainty of Nitrite data
47	PHSPHT	UMOL/KG	F9.2	Phosphate
48	PHSPHT_FLAG_W		I1	Quality flags for water samples
49	PHPUNC	UMOL/KG	F9.2	Uncertainty of Phosphate data
50	CFC-11	PMOL/KG	F9.3	Freon-11TM
51	CFC-11_FLAG_W		I1	Quality flags for water samples
52	CFC-12	PMOL/KG	F9.3	Freon-12TM
53	CFC-12_FLAG_W		I1	Quality flags for water samples
54	CFC113	PMOL/KG	F9.3	Freon-113TM
55	CFC113_FLAG_W		I1	Quality flags for water samples
56	SF6	FMOL/KG	F9.3	Sulfur Hexafluoride
57	SF6_FLAG_W		I1	Quality flags for water samples
58	TCARBN	UMOL/KG	F9.1	Total Carbon CT
59	TCARBN_FLAG_W		I1	Quality flags for water samples
60	ALKALI	UMOL/KG	F9.1	Total alkalinity
61	ALKALI_FLAG_W		I1	Quality flags for water samples
62	PH_TOT		F9.4	pH referred to total scale
63	PH_TMP	DEG C	I9	Temperature to be reported if pH is reported
64	PH_TOT_FLAG_W		I1	Quality flags for water samples
65	DELC13	/MILLE	F9.3	Carbon 13
66	DELC13_FLAG_W		I1	Quality flags for water samples
67	C13ERR	/MILLE	F9.3	DELC13 Error

Column No.	Column Heading Mnemonic	Units MILLE Mnemonic	Reporting Precision FORTAN E9.1 Format	Comments
69	DELC14_FLAG_W		I1	Quality flags for water samples
70	C14ERR	/MILLE	F9.1	DELC14 Error
71	CS-134	MBQ/KG	F9.3	Cesium 134
72	CS-134_FLAG_W		I1	Quality flags for water samples
73	CS134ER	MBQ/KG	F9.3	Expected error
74	CS-137	MBQ/KG	F9.3	Cesium 137
75	CS-137_FLAG_W		I1	Quality flags for water samples
76	CS137ER	MBQ/KG	F9.3	Expected error

#### Related Information



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#### MR12-05 Leg3

Ship Name: MIRAI  
Period: 2013-01-05 - 2013-02-15  
Chief Scientist: Hiroshi Uchida (JAMSTEC)  
Proposal ▶ WOCE-revisit in the western Pacific and Southern oceans  
Title:

#### Update History

2018-01-25	An observation data was registered.
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2015-05-31	An observation data was registered.

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6K Sonar DEEP TOW  
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SAMPLER (SHELL)  
POWER GRAB  
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Cruise ID: [MR12-05 Leg3](#)

Bottle Sampling Water Chemical Analysis: Processed (PI)

Data Policy: [JAMSTEC](#)

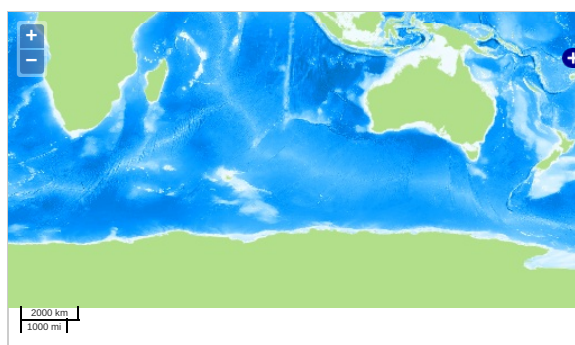
Observation Items: Temperature, Salinity, Dissolved

oxygen, Transmittance, Fluorescence, Chlorophyll, PAR, Silicate, Nitrate, Nitrite, Phosphate, CFC11, CFC12, CFC113, SF6, Total inorganic carbon, Alkalinity, pH, Carbon13, Carbon14, 134Cs, 137Cs

Science Keywords:

OCEANS > OCEAN CHEMISTRY	> DISSOLVED GASES
OCEANS > OCEAN CHEMISTRY	> INORGANIC CARBON
OCEANS > OCEAN CHEMISTRY	> NITRITE
OCEANS > OCEAN CHEMISTRY	> NITRATE
OCEANS > OCEAN CHEMISTRY	> NUTRIENTS
OCEANS > OCEAN CHEMISTRY	> OXYGEN
OCEANS > OCEAN CHEMISTRY	> pH
OCEANS > OCEAN CHEMISTRY	> PHOSPHATE
OCEANS > OCEAN CHEMISTRY	> RADIOCARBON
OCEANS > OCEAN CHEMISTRY	> SILICATE
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OCEANS > OCEAN CHEMISTRY	> OCEAN TRACERS
OCEANS > OCEAN CHEMISTRY	> STABLE ISOTOPES
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### Observation Map



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

Imagery reproduced from ...

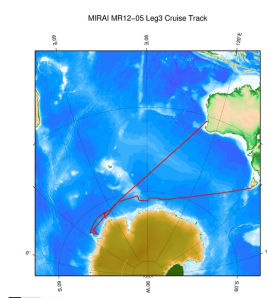
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File names

☐ 49NZ20130106\_hy1.csv

### Related Information



#### MR12-05 Leg3

Ship Name: MIRAI

Period: 2013-01-05 - 2013-02-15

Chief Scientist: Hiroshi Uchida (JAMSTEC)

Proposal ▶ WOCE-revisit in the western Pacific and Southern oceans

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2015-05-31

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