

MIRAI MR18-04 Leg1 Bottle Sampling Water Chemical Analysis

Last Modified: 2020-10-01

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

Cruise ID: [MR18-04 Leg1](#)

Bottle Sampling Water Chemical Analysis: Processed (PI)

Data Policy: [JAMSTEC](#)

Observation Items: Pressure, Temperature, Sound velocity, Practical salinity, Dissolved oxygen, Potential temperature, Density, Transmittance, Turbidity, Fluorescence, PAR, Silicate, Nitrate, Nitrite, Phosphate, Ammonia, Total inorganic carbon, Alkalinity, Chlorophyll, Photosynthetic pigment, CDOM

Science Keywords:

OCEANS	> OCEAN CHEMISTRY	> AMMONIA
OCEANS	> OCEAN CHEMISTRY	> INORGANIC CARBON
OCEANS	> OCEAN CHEMISTRY	> NITRATE
OCEANS	> OCEAN CHEMISTRY	> NUTRIENTS
OCEANS	> OCEAN CHEMISTRY	> OXYGEN
OCEANS	> OCEAN CHEMISTRY	> PHOSPHATE
OCEANS	> OCEAN CHEMISTRY	> SILICATE
OCEANS	> OCEAN CHEMISTRY	> SALINITY
OCEANS	> OCEAN CHEMISTRY	> CHLOROPHYLL
OCEANS	> OCEAN TEMPERATURE	> WATER TEMPERATURE
OCEANS	> SALINITY/DENSITY	> SALINITY
BIOSPHERE	> AQUATIC ECOSYSTEMS	> PLANKTON
OCEANS	> OCEAN OPTICS	> PHOTOSYNTHETICALLY ACTIVE RADIATION
OCEANS	> OCEAN CHEMISTRY	> ALKALINITY
BIOSPHERE	> ECOLOGICAL DYNAMICS	> ECOSYSTEM FUNCTIONS
OCEANS	> OCEAN CHEMISTRY	> SUSPENDED SOLIDS
OCEANS	> OCEAN ACOUSTICS	
OCEANS	> OCEAN CHEMISTRY	> CARBON
OCEANS	> OCEAN OPTICS	> FLUORESCENCE
OCEANS	> OCEAN TEMPERATURE	> POTENTIAL TEMPERATURE

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR18-04_leg1_all.pdf

For Using Data

Principal Investigator

CTD/O2 : Hiroshi Uchida / Masahide Wakita (JAMSTEC)
 SBE35, XMISS, FLUOR, PAR, TURB, CDOM : Hiroshi Uchida / Masahide Wakita (JAMSTEC)
 SVEL : Hiroshi Uchida (JAMSTEC)
 SALNTY, OXYGEN : Masahide Wakita (JAMSTEC)
 Nutrients : Masahide Wakita (JAMSTEC)
 TCARBON, ALKALI : Masahide Wakita (JAMSTEC)
 CHLWEL, SIZECHL : Tetsuichi Fujiki (JAMSTEC)
 Photosynthetic Pigments : Tetsuichi Fujiki (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:
Nutrient analyzer(5ch) (MR09-02 -)



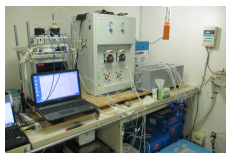
Instrument:
Total dissolved inorganic carbon measurement system (MR11-05 Leg1 -)



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



Instrument:
Titrator for total alkalinity (MR14-03 -)



Instrument:
Fluorometer (TURNER DESIGNS)



Instrument:
High-performance liquid chromatography (MR10-04 Leg1 -)





Information on CTD data

Pressure sensor

Model : SBE9plus, Sea-Bird Electronics, Inc.
Measurement range : 0 to 10500 m
Accuracy : $\pm 0.015\%$ of full scale range
Resolution : 0.001% of full scale

Temperature sensor

Model : SBE03, Sea-Bird Electronics, Inc.
Measurement range : -5 to +35 °C
Accuracy : ± 0.001 °C
Resolution : 0.0002 °C

Deep Ocean Standards Thermometer

Model : SBE35, Sea-Bird Electronics, Inc.
Measurement range : -5 to +35 °C
Accuracy : 0.001 °C
Resolution : 0.000025 °C

Salinity sensor

Model : SBE04, Sea-Bird Electronics, Inc.
Measurement range : 0 to 7 S/m
Accuracy : ± 0.0003 S/m
Resolution : 0.00004 S/m

DO sensor

Model : SBE43, Sea-Bird Electronics, Inc.
Measurement range : 120% of surface saturation
Accuracy : $\pm 2\%$ of saturation

DO sensor

Model : RINKO III, JFE Advantech Co. Ltd.
Measurement range : 0 to 200 %
Accuracy : $\pm 2\%$ FS, non linearity
Resolution : 0.01 to 0.04 %

Transmissometer

Model : C-Star, WET Labs, Inc.
Linearity : 99% R^2

Fluorometer

Model : Seapoint Chlorophyll Fluorometer, Seapoint Sensors, Inc.
Measurement range : 0 - 15 $\mu\text{g/l}$
Resolution : 0.02 $\mu\text{g/l}$

PAR sensor

Model : PAR-Log ICSW, Satlantic, Inc.
Measurement range : 0 - 5000 $\mu\text{mol photons m}^{-2} \text{ s}^{-1}$

Turbidity

Model : Seapoint Turbidity Meter, Seapoint Sensors, Inc.
Measurement range : 0 to 25 FTU
Resolution : 0.006 FTU

CDOM sensor

Model : The Seapoint Ultraviolet Fluorometer (SUVF), Seapoint Sensors, Inc.
Measurement range : 0-50 QSU
Resolution : 0.02 QSU

Sound velocity

Model : miniSVS OEM, Valeport, Ltd.
Measurement range : 1375 to 1900 m s^{-1}
Accuracy : $\pm 0.019 \text{ m s}^{-1}$
Resolution : 0.001 m s^{-1}

Information on Chemical and Biological data

Salinity

Instruments : Autosal salinometer model 8400B (Guildline Instruments Ltd.)
Methods : -
Precision : average of absolute difference 0.0002 , standard deviation of absolute difference 0.0002 (33 pairs of replicate samples)
Reference Material/Calibration : IAPSO Standard Sea Water P161 (Ocean Scientific International Ltd.)

Dissolved Oxygen

Instruments : Burette: APB-510/APB-610/APB-620 manufactured by Kyoto Electronic Co. Ltd. /10 cm^3 of titration vessel
Detector and Software: Automatic photometric titrator DOT-15X manufactured by Kimoto Electronic Co. Ltd
Methods : Winkler method/photometric methods
Precision : 0.12 $\mu\text{mol kg}^{-1}$ (35 pairs of replicate samples)
Reference Material/Calibration : the standard potassium iodate (NMIJ CRM 3006-a No.061)

Silicate

Instruments : BL TEC K.K QuAAtro 2-HR
Methods : Molybdenum blue method
Precision : C.V. 0.07% (standard solution)
Reference Material/Calibration : KANSO CRMs (KANSO Co., Ltd.) and Silicon standard solution SiO_2 in NaOH 0.5 mol/L CertiPUR® (Merck KGaA)

Nitrate

Instruments : BL TEC K.K QuAAtro 2-HR
Methods : Diazotization method (reduced to nitrite by Cd - Cu tube)
Precision : C.V. 0.10% (standard solution)
Reference Material/Calibration : KANSO CRMs (KANSO Co., Ltd.) and potassium nitrate 99.995 suprapur® (Merck KGaA)

Nitrite

Instruments : BL TEC K.K QuAAtro 2-HR

Methods : Diazotization method
Precision : C.V. 0.11% (standard solution)
Reference Material/Calibration : KANSO CRMs (KANSO Co., Ltd.) and nitrite ion standard solution (Wako Pure Chemical Industries, Ltd.)

Phosphate

Instruments : BL TEC K.K QuAAtro 2-HR
Methods : Molybdenum blue method
Precision : C.V. 0.11% (standard solution)
Reference Material/Calibration : KANSO CRMs (KANSO Co., Ltd.) and potassium dihydrogen phosphate anhydrous 99.995 suprapur® (Merck KGaA)

Ammonia

Instruments : BL TEC K.K QuAAtro 2-HR
Methods : Indophenol method
Precision : C.V. 0.23% (standard solution)
Reference Material/Calibration : KANSO CRMs (KANSO Co., Ltd.) and Ammonium Chloride (NMIJ)

Dissolved inorganic carbon

Instruments : TCO2 measuring system (Nihon ANS, Inc.) equipped with coulometer Model 3000 (Nihon ANS, Inc.)
Methods : coulometry
Precision : average of the differences 1.13 $\mu\text{mol kg}^{-1}$, standard deviation of the differences 1.01 $\mu\text{mol kg}^{-1}$ (32 pairs of replicate samples)
Reference Material/Calibration : 1.5 % CO2 standard gas in a nitrogen base and JAMSTEC DIC reference material

Total alkalinity

Instruments : Spectrophotometric system(Nihon ANS, Inc.). The system comprises of a spectrophotometer (TM-UV/VIS C10082CAH (Hamamatsu Photonics, Japan))
Methods : Single step acid additional procedure/spectrophotometry
Precision : average of the differences 1.44 $\mu\text{mol kg}^{-1}$, standard deviation of the differences 1.24 $\mu\text{mol kg}^{-1}$ (34 pairs of replicate samples)
Reference Material/Calibration : DIC RM (KANSO CO., LTD)

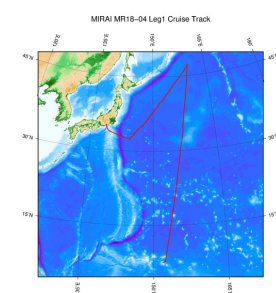
Chlorophyll a

Instruments : Fluorophotometer model 10-AU-005 (Turner design)
Methods : Extract in N, N-dimethylformamide /fluorometric determination (Welschmeyer non-acidification method)
Precision : see cruise report
Reference Material/Calibration : Pure chlorophyll a (Sigma-Aldrich Co., LLC)

Photosynthetic Pigments

Instruments : HPLC : Agilent1200 modular system
Methods : Heukelem, L. V. & Thomas, C. S. (2001) ,
Jeffrey S. W., Mantoura R. F. C. & Wright S. W. (Eds.). (1997)
Precision : repeatability of Chlorophyll a standard solution measurement 234.4 ± 1.4 (n = 26)
Reference Material/Calibration : see cruise report

Related Information



[Enlarge Image](#)

MR18-04 Leg1

Ship Name: MIRAI
Period: 2018-07-19 - 2018-08-09
Chief Scientist: Tetsuichi Fujiki (JAMSTEC)
Project Name: [Station K2, Station KEO]
Proposal The observational study to construct and to extend the "western Pacific super site network"
Title:

Update History

Date	Description
2020-10-01	An observation data was registered.

JAMSTEC
Site Policy
Privacy Policy
Application for Data and Samples
Data Policy
What's New
Update History
Feeds

Lists
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 to a Dive Information
Dive ID:

JAMSTEC 国立研究開発法人
JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

Copyright 2011 Japan Agency for Marine-Earth Science and Technology

MIRAI MR18-04 Leg1 Bottle Sampling Water Chemical Analysis

Last Modified: 2020-10-01

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

 Cruise ID: [MR18-04 Leg1](#)

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	ExpoCode
2	SECT_ID		A6	Section ID
3	STNNBR		A6	Station Number
4	TYPE		A4	Type
5	CASTNO		I3	Cast Number
6	SAMPNO		A7	Sample Number
7	BTLNBR		A7	Bottle Number (S/N fixed to the sampling device)
8	BTLNBR_FLAG_W		I1	Bottle quality flags
9	DATE		I8	Cast date
10	TIME	UTC	A4	Cast time
11	LATITUDE	DEG	F8.4	Latitude
12	LONGITUDE	DEG	F9.4	Longitude
13	DEPTH	METERS	I5	Bottom depth
14	CTDDPT	METERS	F9.1	Depth
15	CTDDPT_FLAG_W		I1	Quality flags for CTD data
16	CTDPRS	DBAR	F9.1	Pressure
17	CTDPRS_FLAG_W		I1	Quality flags for CTD data
18	CTDTMP	ITS-90	F9.4	Temperature (primary sensor)
19	CTDTMP_FLAG_W		I1	Quality flags for CTD data
20	SBE35	ITS-90	F10.5	Temperature from Deep Ocean Standards Thermometer
21	SBE35_FLAG_W		I1	Quality flags for CTD data
22	SVEL	M/S	F9.3	Sound velocity
23	SVEL_FLAG_W		I1	Quality flags for CTD data
24	CTDSAL	PSS-78	F9.4	Salinity (primary sensor)
25	CTDSAL_FLAG_W		I1	Quality flags for CTD data
26	CTDCND	S/M	F11.6	Conductivity (primary sensor)
27	CTDCND_FLAG_W		I1	Quality flags for CTD data
28	CTDOXY	UMOL/KG	F9.2	CTD-oxygen (primary sensor)
29	CTDOXY_FLAG_W		I1	Quality flags for CTD data
30	CTDOXV	V	F9.4	CTD-oxygen voltage (primary sensor)
31	CTDOXV_FLAG_W		I1	Quality flags for CTD data
32	THETA	DEG C	F9.4	Potential temperature (primary sensor)
33	THETA_FLAG_W		I1	Quality flags for CTD data
34	SIG0	KG/CUM	F9.4	Density (primary sensor)
35	SIG0_FLAG_W		I1	Quality flags for CTD data
36	XMISS	%TRANS	F9.3	Transmissometer
37	XMISS_FLAG_W		I1	Quality flags for CTD data
38	XMISSCP	/METER	F9.4	Beam attenuation coefficient
39	XMISSCP_FLAG_W		I1	Quality flags for CTD data
40	XMISSV	V	F9.4	Transmissometer voltage
41	XMISSV_FLAG_W		I1	Quality flags for CTD data
42	FLUOR	MG/CUM	F9.3	Fluorescence
43	FLUOR_FLAG_W		I1	Quality flags for CTD data
44	PAR	UE/SQM/S	F9.3	PAR
45	PAR_FLAG_W		I1	Quality flags for CTD data
46	TURB	FTU	F9.3	Turbidity
47	TURB_FLAG_W		I1	Quality flags for CTD data
48	CTDCDOM	QSU	F9.1	CDOM (Colored dissolved organic matter) sensor
49	CTDCDOM_FLAG_W		I1	Quality flags for water samples
50	SALNTY	PSS-78	F9.4	Bottle Salinity
51	SALNTY_FLAG_W		I1	Quality flags for water samples
52	SALNTY_1	PSS-78	F9.4	Bottle Salinity (replicate)
53	SALNTY_1_FLAG_W		I1	Quality flags for water samples
54	OXYGEN	UMOL/KG	F9.2	Bottle Oxygen
55	OXYGEN_FLAG_W		I1	Quality flags for water samples
56	OXYGEN_1	UMOL/KG	F9.2	Bottle Oxygen (replicate)
57	OXYGEN_1_FLAG_W		I1	Quality flags for water samples
58	SILCAT	UMOL/KG	F9.2	Silicate (Mean of replicate measurements)
59	SILCAT_FLAG_W		I1	Quality flags for water samples
60	SILUNC	UMOL/KG	F9.2	Uncertainty of Silicate data
61	SILCAT1	UMOL/KG	F9.2	Silicate
62	SILCAT1_FLAG_W		I1	Quality flags for water samples
63	SILCAT2	UMOL/KG	F9.2	Silicate (replicate)

Column No.	Column Heading Mnemonic	Units Moles/KG	Reporting Precision Format	FORTRAN	Quality flags for water samples Comments Nitrate (Mean of replicate measurements)
66	NITRAT_FLAG_W		I1		Quality flags for water samples
67	NRAUNC	UMOL/KG	F9.2		Uncertainty of Nitrate data
68	NITRAT1	UMOL/KG	F9.2		Nitrate
69	NITRAT1_FLAG_W		I1		Quality flags for water samples
70	NITRAT2	UMOL/KG	F9.2		Nitrate (replicate)
71	NITRAT2_FLAG_W		I1		Quality flags for water samples
72	NITRIT	UMOL/KG	F9.2		Nitrite (Mean of replicate measurements)
73	NITRIT_FLAG_W		I1		Quality flags for water samples
74	NRIUNC	UMOL/KG	F9.2		Uncertainty of Nitrite data
75	NITRIT1	UMOL/KG	F9.2		Nitrite
76	NITRIT1_FLAG_W		I1		Quality flags for water samples
77	NITRIT2	UMOL/KG	F9.2		Nitrite (replicate)
78	NITRIT2_FLAG_W		I1		Quality flags for water samples
79	PHSPHT	UMOL/KG	F9.3		Phosphate (Mean of replicate measurements)
80	PHSPHT_FLAG_W		I1		Quality flags for water samples
81	PHPUNC	UMOL/KG	F9.3		Uncertainty of Phosphate data
82	PHSPHT1	UMOL/KG	F9.3		Phosphate
83	PHSPHT1_FLAG_W		I1		Quality flags for water samples
84	PHSPHT2	UMOL/KG	F9.3		Phosphate (replicate)
85	PHSPHT2_FLAG_W		I1		Quality flags for water samples
86	NH4	UMOL/KG	F9.2		Ammonium (Mean of replicate measurements)
87	NH4_FLAG_W		I1		Quality flags for water samples
88	NH4UNC	UMOL/KG	F9.2		Uncertainty of Ammonium data
89	NH41	UMOL/KG	F9.2		Ammonium
90	NH41_FLAG_W		I1		Quality flags for water samples
91	NH42	UMOL/KG	F9.2		Ammonium (replicate)
92	NH42_FLAG_W		I1		Quality flags for water samples
93	TCARBN	UMOL/KG	F9.1		Total Carbon CT
94	TCARBN_FLAG_W		I1		Quality flags for water samples
95	TCARBN_1	UMOL/KG	F9.1		Total Carbon CT (replicate)
96	TCARBN_1_FLAG_W		I1		Quality flags for water samples
97	ALKALI	UMOL/KG	F9.1		Total alkalinity
98	ALKALI_FLAG_W		I1		Quality flags for water samples
99	ALKALI_1	UMOL/KG	F9.1		Total alkalinity (replicate)
100	ALKALI_1_FLAG_W		I1		Quality flags for water samples
101	CHLWEL	MG/CUM	F9.2		Chlorophyll a
102	CHLWEL_FLAG_W		I1		Quality flags for water samples
103	CHLWEL_1	MG/CUM	F9.2		Chlorophyll a (replicate)
104	CHLWEL_1_FLAG_W		I1		Quality flags for water samples
105	CHLHPLC	MG/CUM	F9.3		Chlorophyll a (HPLC)
106	CHLHPLC_FLAG_W		I1		Quality flags for water samples
107	SIZECHL>10um	MG/CUM	F9.2		Chlorophyll a > 10um
108	SIZECHL>10um_FLAG_W		I1		Quality flags for water samples
109	SIZECHL3-10um	MG/CUM	F9.2		Chlorophyll a 3-10um
110	SIZECHL3-10um_FLAG_W		I1		Quality flags for water samples
111	SIZECHL1-3um	MG/CUM	F9.2		Chlorophyll a 1-3um
112	SIZECHL1-3um_FLAG_W		I1		Quality flags for water samples
113	SIZECHL<1um	MG/CUM	F9.2		Chlorophyll a < 1um
114	SIZECHL<1um_FLAG_W		I1		Quality flags for water samples
115	CHLC3	MG/CUM	F9.3		Chlorophyll c3
116	CHLC3_FLAG_W		I1		Quality flags for water samples
117	CHLIDEA	MG/CUM	F9.3		Chlorophyllide a
118	CHLIDEA_FLAG_W		I1		Quality flags for water samples
119	MGDVP	MG/CUM	F9.3		Mg2 4-divinyl pheoporphyrin a5 monomethyl ester
120	MGDVP_FLAG_W		I1		Quality flags for water samples
121	CHLC2	MG/CUM	F9.3		Chlorophyll c2
122	CHLC2_FLAG_W		I1		Quality flags for water samples
123	PERID	MG/CUM	F9.3		Peridin
124	PERID_FLAG_W		I1		Quality flags for water samples
125	PHIDEA	MG/CUM	F9.3		Phaeophorbide a
126	PHIDEA_FLAG_W		I1		Quality flags for water samples
127	BUTFUCO	MG/CUM	F9.3		Butafucoxanthin
128	BUTFUCO_FLAG_W		I1		Quality flags for water samples
129	FUCO	MG/CUM	F9.3		Fucoxanthin
130	FUCO_FLAG_W		I1		Quality flags for water samples
131	NEO	MG/CUM	F9.3		Neoxanthin
132	NEO_FLAG_W		I1		Quality flags for water samples
133	PRAS	MG/CUM	F9.3		Prasinoxanthin
134	PRAS_FLAG_W		I1		Quality flags for water samples
135	HEXFUCO	MG/CUM	F9.3		19'-hexanoyloxyfucoxanthin
136	HEXFUCO_FLAG_W		I1		Quality flags for water samples
137	VIOLA	MG/CUM	F9.3		Violaxanthin
138	VIOLA_FLAG_W		I1		Quality flags for water samples
139	DIADINO	MG/CUM	F9.3		Diadinoxanthin
140	DIADINO_FLAG_W		I1		Quality flags for water samples
141	ALLO	MG/CUM	F9.3		Alloxanthin
142	ALLO_FLAG_W		I1		Quality flags for water samples
143	DIATO	MG/CUM	F9.3		Diatoxanthin
144	DIATO_FLAG_W		I1		Quality flags for water samples

Column No.	Column Heading Mnemonic	Units MG/CUM	Reporting Precision F9.3	FORTRAN Format	Zeaxanthin Comments Quality flags for water samples
147	LUT	MG/CUM	F9.3		Lutein
148	LUT_FLAG_W		I1		Quality flags for water samples
149	CHLB	MG/CUM	F9.3		Chlorophyll b
150	CHLB_FLAG_W		I1		Quality flags for water samples
151	DCHLA	MG/CUM	F9.3		Divinyl Chlorophyll a
152	DCHLA_FLAG_W		I1		Quality flags for water samples
153	PHYTINA	MG/CUM	F9.3		Pheophytin a
154	PHYTINA_FLAG_W		I1		Quality flags for water samples
155	ALPHAC	MG/CUM	F9.3		Alpha-carotene
156	ALPHAC_FLAG_W		I1		Quality flags for water samples
157	BETAC	MG/CUM	F9.3		Beta-carotene
158	BETAC_FLAG_W		I1		Quality flags for water samples

ODV Format

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

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

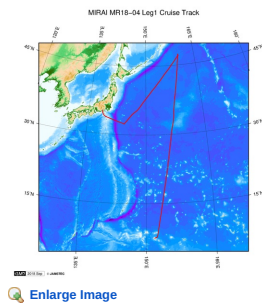
Format Information

Column No.	Column Heading	Comments
1	EXPOCODE	Cruise Label
2	Cruise	Cruise
3	Station	Station number_Cast number
4	Type	Station type
5	mon/day/yr	Cast date
6	hh:mm	Cast time
7	Latitude[degrees_north]	Latitude
8	Longitude[degrees_east]	Longitude
9	Bot. Depth[METERS]	Bottom depth
10	CTDDPT[METERS]	Depth
11	QF	Quality flags for CTD data
12	CTDPRS[DBAR]	Pressure
13	QF	Quality flags for CTD data
14	CTDTMP[ITS-90]	Temperature (primary sensor)
15	QF	Quality flags for CTD data
16	SBE35[ITS-90]	Temperature from Deep Ocean Standards Thermometer
17	QF	Quality flags for CTD data
18	SVEL[M/S]	Sound velocity
19	QF	Quality flags for CTD data
20	CTDSAL[PSS-78]	Salinity (primary sensor)
21	QF	Quality flags for CTD data
22	CTDCND[SM]	Conductivity (primary sensor)
23	QF	Quality flags for CTD data
24	CTDOXY[UMOL/KG]	CTD-oxygen (primary sensor)
25	QF	Quality flags for CTD data
26	CTDOXV[V]	CTD-oxygen voltage (primary sensor)
27	QF	Quality flags for CTD data
28	THETA[DEG C]	Potential temperature (primary sensor)
29	QF	Quality flags for CTD data
30	SIG0[KG/CUM]	Density (primary sensor)
31	QF	Quality flags for CTD data
32	XMISS[%TRANS]	Transmissometer
33	QF	Quality flags for CTD data
34	XMISSCP[METER]	Beam attenuation coefficient
35	QF	Quality flags for CTD data
36	XMISSV[V]	Transmissometer voltage
37	QF	Quality flags for CTD data
38	FLUOR[MG/CUM]	Fluorescence
39	QF	Quality flags for CTD data
40	PAR[UE/SQM/S]	PAR
41	QF	Quality flags for CTD data
42	TURB[FTU]	Turbidity
43	QF	Quality flags for CTD data
44	CTDCDOM[QSU]	CDOM (Colored dissolved organic matter) sensor
45	QF	Quality flags for water samples
46	SALNTY[PSS-78]	Bottle Salinity
47	QF	Quality flags for water samples
48	SALNTY_1[PSS-78]	Bottle Salinity (replicate)
49	QF	Quality flags for water samples
50	OXYGEN[UMOL/KG]	Bottle Oxygen
51	QF	Quality flags for water samples
52	OXYGEN_1[UMOL/KG]	Bottle Oxygen (replicate)
53	QF	Quality flags for water samples
54	SILCAT[UMOL/KG]	Silicate (Mean of replicate measurements)
55	QF	Quality flags for water samples
56	SILUNC	Uncertainty of Silicate data
57	QF	Quality flags for water samples
58	SILCAT1[UMOL/KG]	Silicate
59	QF	Quality flags for water samples
60	SILCAT2[UMOL/KG]	Silicate (replicate)
61	QF	Quality flags for water samples
62	NITRAT[UMOL/KG]	Nitrate (Mean of replicate measurements)

Column No.	Column Heading	Comments
63	NRAUNC	Uncertainty of Nitrate data
64	QF	Quality flags for water samples
65	NITRAT1[UMOL/KG]	Nitrate
66	QF	Quality flags for water samples
67	NITRAT2[UMOL/KG]	Nitrate (replicate)
68	QF	Quality flags for water samples
69	NITRIT[UMOL/KG]	Nitrite (Mean of replicate measurements)
70	QF	Quality flags for water samples
71	NRIUNC	Uncertainty of Nitrite data
72	QF	Quality flags for water samples
73	NITRIT1[UMOL/KG]	Nitrite
74	QF	Quality flags for water samples
75	NITRIT2[UMOL/KG]	Nitrite (replicate)
76	QF	Quality flags for water samples
77	PHSPHT[UMOL/KG]	Phosphate (Mean of replicate measurements)
78	QF	Quality flags for water samples
79	PHPUNC	Uncertainty of Phosphate data
80	QF	Quality flags for water samples
81	PHSPHT1[UMOL/KG]	Phosphate
82	QF	Quality flags for water samples
83	PHSPHT2[UMOL/KG]	Phosphate (replicate)
84	QF	Quality flags for water samples
85	NH4[UMOL/KG]	Ammonium (Mean of replicate measurements)
86	QF	Quality flags for water samples
87	NH4UNC	Uncertainty of Ammonium data
88	QF	Quality flags for water samples
89	NH41[UMOL/KG]	Ammonium
90	QF	Quality flags for water samples
91	NH42[UMOL/KG]	Ammonium (replicate)
92	QF	Quality flags for water samples
93	TCARBN[UMOL/KG]	Total Carbon CT
94	QF	Quality flags for water samples
95	TCARBN_1[UMOL/KG]	Total Carbon CT (replicate)
96	QF	Quality flags for water samples
97	ALKALI[UMOL/KG]	Total alkalinity
98	QF	Quality flags for water samples
99	ALKALI_1[UMOL/KG]	Total alkalinity (replicate)
100	QF	Quality flags for water samples
101	CHLWEL[MG/CUM]	Chlorophyll a
102	QF	Quality flags for water samples
103	CHLWEL_1[MG/CUM]	Chlorophyll a (replicate)
104	QF	Quality flags for water samples
105	CHLHPLC[MG/CUM]	Chlorophyll a (HPLC)
106	QF	Quality flags for water samples
107	SIZECHL>10um[MG/CUM]	Chlorophyll a > 10um
108	QF	Quality flags for water samples
109	SIZECHL3-10um[MG/CUM]	Chlorophyll a 3-10um
110	QF	Quality flags for water samples
111	SIZECHL1-3um[MG/CUM]	Chlorophyll a 1-3um
112	QF	Quality flags for water samples
113	SIZECHL<1um[MG/CUM]	Chlorophyll a < 1um
114	QF	Quality flags for water samples
115	CHLC3[MG/CUM]	Chlorophyll c3
116	QF	Quality flags for water samples
117	CHLIDEA[MG/CUM]	Chlorophyllide a
118	QF	Quality flags for water samples
119	MGDVP[MG/CUM]	Mg2 4-divinyl pheoporpyrin a5 monometyl ester
120	QF	Quality flags for water samples
121	CHLC2[MG/CUM]	Chlorophyll c2
122	QF	Quality flags for water samples
123	PERID[MG/CUM]	Peridin
124	QF	Quality flags for water samples
125	PHIDEA[MG/CUM]	Pheophorbide a
126	QF	Quality flags for water samples
127	BUTFUCO[MG/CUM]	Butafucoxanthin
128	QF	Quality flags for water samples
129	FUCO[MG/CUM]	Fucoxanthin
130	QF	Quality flags for water samples
131	NEO[MG/CUM]	Neoxanthin
132	QF	Quality flags for water samples
133	PRAS[MG/CUM]	Prasinoxanthin
134	QF	Quality flags for water samples
135	HEXFUCO[MG/CUM]	19'-hexanoyloxyfucoxanthin
136	QF	Quality flags for water samples
137	VIOLA[MG/CUM]	Violaxanthin
138	QF	Quality flags for water samples
139	DIADINO[MG/CUM]	Diadinoxanthin
140	QF	Quality flags for water samples
141	ALLO[MG/CUM]	Alloxanthin
142	QF	Quality flags for water samples
143	DIATO[MG/CUM]	Diatoxanthin
144		

Column No.	Column Heading	Comments
146	ZE[MG/CUM]	Zeaxanthin
147	QF	Quality flags for water samples
148	LUT[MG/CUM]	Lutein
149	QF	Quality flags for water samples
150	CHLB[MG/CUM]	Chlorophyll b
151	QF	Quality flags for water samples
152	DCHLA[MG/CUM]	Divinyl Chlorophyll a
153	QF	Quality flags for water samples
154	PHYTINA[MG/CUM]	Pheophytin a
155	QF	Quality flags for water samples
156	ALPHAC[MG/CUM]	Alpha-carotene
157	QF	Quality flags for water samples
158	BETAC[MG/CUM]	Beta-carotene
159	QF	Quality flags for water samples
160	SAMPNO	Sample Number
161	QF	Bottle quality flags

Related Information



MR18-04 Leg1

Ship Name: MIRAI
Period: 2018-07-19 - 2018-08-09
Chief Scientist: Tetsuichi Fujiki (JAMSTEC)
Project Name: [Station K2, Station KEO]
Proposal The observational study to construct and to extend the "western Pacific super site network"
Title:

Update History

2020-10-01 An observation data was registered.

JAMSTEC

Site Policy
Privacy Policy
Application for Data and Samples
Data Policy
What's New
Update History
Feeds

Lists

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 to a Dive Information

Dive ID:



MIRAI MR18-04 Leg1 Bottle Sampling Water Chemical Analysis

Last Modified: 2020-10-01

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

Cruise ID: [MR18-04 Leg1](#)

Bottle Sampling Water Chemical Analysis: Processed (PI)

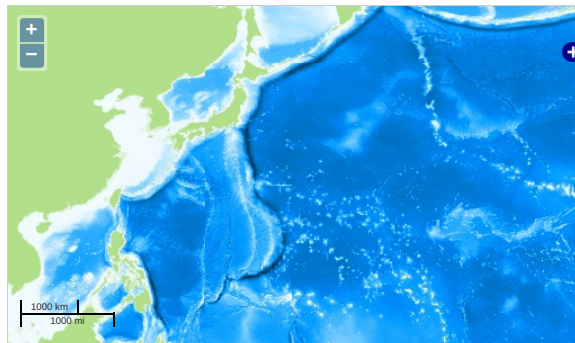
Data Policy: [JAMSTEC](#)

Observation Items: Pressure, Temperature, Sound velocity, Practical salinity, Dissolved oxygen, Potential temperature, Density, Transmittance, Turbidity, Fluorescence, PAR, Silicate, Nitrate, Nitrite, Phosphate, Ammonia, Total inorganic carbon, Alkalinity, Chlorophyll, Photosynthetic pigment, CDOM

Science Keywords:

OCEANS	> OCEAN CHEMISTRY	> AMMONIA
OCEANS	> OCEAN CHEMISTRY	> INORGANIC CARBON
OCEANS	> OCEAN CHEMISTRY	> NITRATE
OCEANS	> OCEAN CHEMISTRY	> NUTRIENTS
OCEANS	> OCEAN CHEMISTRY	> OXYGEN
OCEANS	> OCEAN CHEMISTRY	> PHOSPHATE
OCEANS	> OCEAN CHEMISTRY	> SILICATE
OCEANS	> OCEAN CHEMISTRY	> SALINITY
OCEANS	> OCEAN CHEMISTRY	> CHLOROPHYLL
OCEANS	> OCEAN TEMPERATURE	> WATER TEMPERATURE
OCEANS	> SALINITY/DENSITY	> SALINITY
BIOSPHERE	> AQUATIC ECOSYSTEMS	> PLANKTON
OCEANS	> OCEAN OPTICS	> PHOTOSYNTHETICALLY ACTIVE RADIATION
OCEANS	> OCEAN CHEMISTRY	> ALKALINITY
BIOSPHERE	> ECOLOGICAL DYNAMICS	> ECOSYSTEM FUNCTIONS
OCEANS	> OCEAN CHEMISTRY	> SUSPENDED SOLIDS
OCEANS	> OCEAN ACOUSTICS	
OCEANS	> OCEAN CHEMISTRY	> CARBON
OCEANS	> OCEAN OPTICS	> FLUORESCENCE
OCEANS	> OCEAN TEMPERATURE	> POTENTIAL TEMPERATURE

Observation Map



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

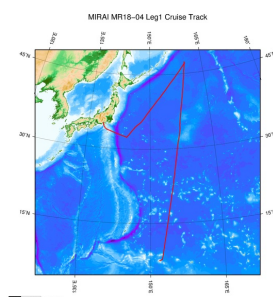
Data List

☐ File names

☐ MR180401_ex_bot.csv

☐ MR180401_odv_bot.txt

Related Information



[Enlarge Image](#)

MR18-04 Leg1

Ship Name: MIRAI

Period: 2018-07-19 - 2018-08-09

Chief Scientist: Tetsuichi Fujiki (JAMSTEC)

Project Name: [Station K2, Station KEO]

Proposal The observational study to construct and to extend the "western Pacific super site network"

Title:

Update History

2020-10-01 An observation data was registered.

JAMSTEC

[Site Policy](#)

[Privacy Policy](#)

[Application for Data and Samples](#)

[Data Policy](#)

What's New

[Update History](#)

[Feeds](#)

Lists

[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

Copyright 2011 Japan Agency for Marine-Earth Science and Technology



JAMSTEC

国立研究開発法人
海洋研究開発機構

JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY