MIRAI MR17-04 Leg1 Bottle Sampling Water Chemical Analysis

Last Modified: 2019-09-20

ReadMe | Observation Data | Data Format | Quality Information

Cruise ID: MR17-04 Leg1

Bottle Sampling Water Chemical Analysis: Processed (DMO)-QCed

Data Policy: JAMSTEC

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

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	> pH	
OCEANS	> OCEAN CHEMISTRY	> PHOSPHATE	
OCEANS	> OCEAN CHEMISTRY	> SILICATE	
OCEANS	> OCEAN CHEMISTRY	> SALINITY	
BIOSPHERE	> VEGETATION	> CHLOROPHYLL	
OCEANS	> OCEAN CHEMISTRY	> CHLOROPHYLL	
OCEANS	> OCEAN TEMPERATURE	> WATER TEMPERATURE	
OCEANS	> SALINITY/DENSITY	> SALINITY	
BIOSPHERE	> AQUATIC ECOSYSTEMS	> PLANKTON	> PHYTOPLANKTON
OCEANS	> OCEAN OPTICS	> PHOTOSYNTHETICALLY ACTIVE RADIATION	
BIOSPHERE	> ECOLOGICAL DYNAMICS	> ECOSYSTEM FUNCTIONS	> PRIMARY PRODUCTION
OCEANS	> OCEAN CHEMISTRY	> ALKALINITY	
BIOSPHERE	> ECOLOGICAL DYNAMICS	> ECOSYSTEM FUNCTIONS	> PHOTOSYNTHESIS
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/MR17-04_leg1-2_all.pdf

For Using Data

Principal Investigator

CTD/O_2 : Masahide Wakita（JAMSTEC）

SBE35, XMISS, FLUOR, PAR, TURB : Masahide Wakita（JAMSTEC）

DNSSAL : Hiroshi Uchida / Masahide Wakita/Shinya Kouketu（JAMSTEC）

SALNTY, OXYGEN ： Masahide Wakita（JAMSTEC）

Nutrients : Masahide Wakita（JAMSTEC）

TCARBON, ALKALI, pH：Masahide Wakita（JAMSTEC）

d-POC : Tetsuichi Fujiki（JAMSTEC）

CHLWEL, SIZECHL : Tetsuichi Fujiki（JAMSTEC）

Photosynthetic Pigments : Tetsuichi Fujiki（JAMSTEC）

Use Constraints

See **Terms and Conditions** about constrain of use.

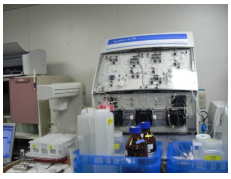
Data Citation

See **Terms and Conditions** about data citation.

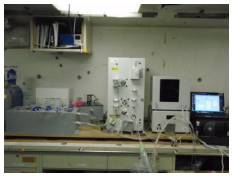
Instrument

Instrument:
Salinity measurement system

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



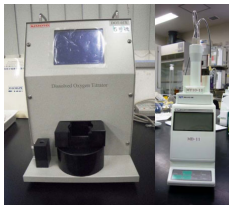
Instrument:
Total dissolved inorganic carbon measurement system (MR11-05 Leg1 -)



Instrument:
CN mass spectrometer

Instrument:
pH meter (MR02-K03 -)

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	: ± 0.015% of full scale range
Resolution	: 0.001% of full scale

Temperature sensor

Model	: SBE03-04F, 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	: SBE04C, Sea-Bird Electronics, Inc.
Measurement range	: 0 to 7 S/m
Accuracy	: ± 0.0003 S/m
Resolution	: 0.00004 S/m

DO sensor (primary)

Model	: RINKO III, JFE Advantech Co. Ltd.
Measurement range	: 0 to 200 % of surface saturation
Accuracy	: ± 2 % FS, non linearity
Resolution	: 0.01 to 0.04 %

DO sensor (secondary)

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

Transmissometer

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

Fluorometer

Model	: Seapoint Chlorophyll Fluorometer, Seapoint Sensors, Inc.
Measurement range	: 0 - 15 µg/l
Resolution	: 0.02 µg/l

PAR sensor

Model	: PAR-Log ICSW, Satlantic, Inc.
Measurement range	: 0 - 5000 µmol photons m^{-2} s^{-1}

Turbidity

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

Information on Chemical and Biological data

Density Salinity (DNSSAL)

Instruments	: oscillation-type density meter DMA 5000M (Anton-Paar GmbH)
Methods	: see "Cruise report"
Precision	: root-mean square of the absolute difference of replicate samples was 0.0007 g/kg (14 pairs)
Reference Material/Calibration	: Dn-RM1 and PRE18 (Kanso Technos Co., Ltd.)

Salinity

Instruments	: Autosal salinometer model 8400B (Guildline Instruments Ltd.)
Methods	: -
Precision	: The average of the double conductivity ratio after correction was 1.99976 and the standard deviation was 0.00001, which is equivalent to 0.0002 in salinity
Reference Material/Calibration	: IAPSO Standard Sea Water P159 (Ocean Scientific International Ltd.)

Dissolved Oxygen

Instruments	: Burette: APB-510/APB-620 manufactured by Kyoto Electronic Co. Ltd. /10 cm^3 of titration vessel Detector and Software: Automatic photometric titrator DOT-01X manufactured by Kimoto Electronic Co. Ltd
Methods	: Winkler method/photometric methods
Precision	: 0.11 µmol kg^{-1}
Reference Material/Calibration	: Potassium Iodate NMIJ CRM 3006-a No.058, The National Institute of Advanced Industrial Science and Technology

Silicate

Instruments	: BL TEC K.K QuAAtro 2-HR
Methods	: Molybdenum blue method
Precision	: C.V. 0.12%
Reference Material/Calibration	: RMNS, 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. 0.15%
Reference Material/Calibration	: RMNS, potassium nitrate 99.995 suprapur® (Merck KGaA)

Nitrite

Instruments	: BL TEC K.K QuAAtro 2-HR
Methods	: Diazotization method
Precision	: C.V. 0.19%

Precision : C.V. 0.15%
Reference Material/Calibration : RMNS, sodium nitrite (Wako Pure Chemical Industries, Ltd.)

Phosphate

Instruments : BL TEC K.K QuAAtro 2-HR
Methods : Molybdenum blue method
Precision : C.V. 0.15%
Reference Material/Calibration : RMNS, potassium dihydrogen phosphate anhydrous 99.995 suprapur® (Merck KGaA)

Ammonia

Instruments : BL TEC K.K QuAAtro 2-HR
Methods : Indophenol method
Precision : C.V. 0.39%
Reference Material/Calibration : ammonium sulfate (NMIJ CRM 3006-a No.058)

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 1.15 umol kg^{-1}, standard deviation of the differences 0.97 umol kg^{-1}
Reference Material/Calibration : CRM produced by KANSO CO., Ltd

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 2.86 umol kg^{-1}, standard deviation of the differences 2.92 umol kg^{-1}
Reference Material/Calibration : -

pH

Instruments : pH/Ion meter PHM240 (Radiometer Analytical SAS)
Methods : potentiometric methods
Precision : The average of differences 0.001 pH unit, the standard deviation of differences 0.001 pH units
Reference Material/Calibration : total hydrogen ion scale

Carbon uptake rate (d-POC)

Instruments : ANCA－SL（SerCon Ltd.）
Methods : Dumas method, Mass spectrometry

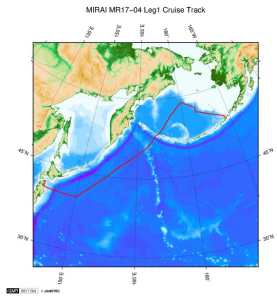
Chlorophyll a

Instruments : Fluorophotometer model 10-AU-005 (Turner design)
Methods : Extract in N, N-dimethylformamide /fluorometric determination (Welschmeyer non-acidification method)
Precision : average of the relative error 3.0% (n = 32)
Reference Material/Calibration : Chlorophylla from Anacystis nidulans algae (Sigma-Aldrich Co. LLC)

Photosynthethic Pigments

Instruments : HPLC : Agilent1200 modular system
Methods : Van Heukelem and Thomas（2001）
Precision : repeatability of Chlorophyll a measurement 216.7 ± 1.5 (n = 34)
Reference Material/Calibration : see cruise report

Related Information



Enlarge Image

MR17-04 Leg1
Ship Name: MIRAI
Period: 2017-07-10 - 2017-08-02
Chief Scientist: Tetsuichi Fujiki (JAMSTEC)
Project Name: [Station K2]
Proposal Title: ▶ Collaborative experiment on Biogeochemical and Ecosystem Studies for sub-Arctic sea

Update History

2019-09-20	An observation data was registerd.

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ReadMe | Observation Data | Data Format | Quality Information

Cruise ID: MR17-04 Leg1

Bottle Sampling Water Chemical Analysis: Processed (DMO)-QCed

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	EXPOCODE		A14	ExpoCode
2	SECT_ID		A6	Section ID
3	CRUISE		A8	Cruise
4	STNNBR		A6	Station Number
5	TYPE		A4	Type
6	CASTNO		I3	Cast Number
7	SAMPNO		A7	Sample Number
8	BTLNBR		A7	Bottle Number (S/N fixed to the sampling device)
9	BTLNBR_FLAG_W		I1	Bottle quality flags
10	DATE		I8	Cast date
11	TIME	UTC	A4	Cast time
12	LATITUDE	DEG	F8.4	Latitude
13	LONGITUDE	DEG	F9.4	Longitude
14	DEPTH	METERS	I5	Bottom depth
15	CTDDPT	METERS	F9.1	Depth
16	CTDDPT_FLAG_W		I1	Quality flags for CTD data
17	CTDPRS	DBAR	F9.1	Pressure
18	CTDPRS_FLAG_W		I1	Quality flags for CTD data
19	CTDTMP	ITS-90	F9.4	Temperature (primary sensor)
20	CTDTMP_FLAG_W		I1	Quality flags for CTD data
21	CTDTMP_1	ITS-90	F9.4	Temperature (secondary sensor)
22	CTDTMP_1_FLAG_W		I1	Quality flags for CTD data
23	SBE35	ITS-90	F10.5	Temperature from Deep Ocean Standards Thermometer
24	SBE35_FLAG_W		I1	Quality flags for CTD data
25	CTDSAL	PSS-78	F9.4	Salinity (primary sensor)
26	CTDSAL_FLAG_W		I1	Quality flags for CTD data
27	CTDSAL_1	PSS-78	F9.4	Salinity (secondary sensor)
28	CTDSAL_1_FLAG_W		I1	Quality flags for CTD data
29	CTDCND	S/M	F11.6	Conductivity (primary sensor)
30	CTDCND_FLAG_W		I1	Quality flags for CTD data
31	CTDCND_1	S/M	F11.6	Conductivity (secondary sensor)
32	CTDCND_1_FLAG_W		I1	Quality flags for CTD data
33	DNSSAL	G/KG	F9.4	Quality-controlled density salinity data
34	DNSSAL_FLAG_W		I1	Quality flags for water samples
35	DNSSAL_1	G/KG	F9.4	Quality-controlled density salinity data (replicate)
36	DNSSAL_1_FLAG_W		I1	Quality flags for water samples
37	CTDOXY	UMOL/KG	F9.2	CTD-oxygen (primary sensor RINKOIII using primary T and S)
38	CTDOXY_FLAG_W		I1	Quality flags for CTD data
39	CTDOXY_s	UMOL/KG	F9.2	CTD-oxygen (primary sensor RINKOIII using secondary T and S)
40	CTDOXY_s_FLAG_W		I1	Quality flags for CTD data
41	CTDOXY_2	UMOL/KG	F9.2	CTD-oxygen (secondary sensor SBE43)
42	CTDOXY_2_FLAG_W		I1	Quality flags for CTD data
43	CTDOXV	V	F9.4	CTD-oxygen voltage (primary sensor)
44	CTDOXV_FLAG_W		I1	Quality flags for CTD data
45	CTDOXV_2	V	F9.4	CTD-oxygen voltage (secondary sensor)
46	CTDOXV_2_FLAG_W		I1	Quality flags for CTD data
47	THETA	DEG C	F9.4	Potential temperature (primary sensor)
48	THETA_FLAG_W		I1	Quality flags for CTD data
49	THETA_1	DEG C	F9.4	Potential temperature (secondary sensor)
50	THETA_1_FLAG_W		I1	Quality flags for CTD data
51	SIG0	KG/CUM	F9.4	Density (primary sensor)
52	SIG0_FLAG_W		I1	Quality flags for CTD data
53	SIG0_1	KG/CUM	F9.4	Density (secondary sensor)
54	SIG0_1_FLAG_W		I1	Quality flags for CTD data
55	XMISS	%TRANS	F9.3	Transmittance
56	XMISS_FLAG_W		I1	Quality flags for CTD data
57	XMISSCP	/METER	F9.4	Beam attenuation coefficient
58	XMISSCP_FLAG_W		I1	Quality flags for CTD data
59	XMISSV	V	F9.4	Transmissometer voltage
60	XMISSV_FLAG_W		I1	Quality flags for CTD data
61	FLUOR	MG/CUM	F9.3	Chlorophyll-a measured by the fluorometer attached to CTD
62	FLUOR_FLAG_W		I1	Quality flags for CTD data

Column No.	Column Heading Mnemonic	Units Mnemonic	Reporting Precision FORTRAN Format	Comments
63	PAR	UEINSTM/S	F9.5	PAR
64	PAR_FLAG_W		I1	Quality flags for CTD data
65	TURB	FTU	F9.3	Turbidity (primary sensor)
66	TURB_FLAG_W		I1	Quality flags for CTD data
67	TURB_1	FTU	F9.3	Turbidity (secondary sensor)
68	TURB_1_FLAG_W		I1	Quality flags for CTD data
69	SALNTY	PSS-78	F9.4	Bottle Salinity
70	SALNTY_FLAG_W		I1	Quality flags for water samples
71	SALNTY_1	PSS-78	F9.4	Bottle Salinity (replicate)
72	SALNTY_1_FLAG_W		I1	Quality flags for water samples
73	OXYGEN	UMOL/KG	F9.2	Bottle Oxygen
74	OXYGEN_FLAG_W		I1	Quality flags for water samples
75	OXYGEN_1	UMOL/KG	F9.2	Bottle Oxygen (replicate)
76	OXYGEN_1_FLAG_W		I1	Quality flags for water samples
77	SILCAT	UMOL/KG	F9.2	Silicate (Mean of replicate measurements)
78	SILCAT_FLAG_W		I1	Quality flags for water samples
79	SILUNC	UMOL/KG	F9.2	Uncertainty of Silicate data
80	SILCAT1	UMOL/KG	F9.2	Silicate
81	SILCAT1_FLAG_W		I1	Quality flags for water samples
82	SILCAT2	UMOL/KG	F9.2	Silicate (replicate)
83	SILCAT2_FLAG_W		I1	Quality flags for water samples
84	NITRAT	UMOL/KG	F9.2	Nitrate (Mean of replicate measurements)
85	NITRAT_FLAG_W		I1	Quality flags for water samples
86	NRAUNC	UMOL/KG	F9.2	Uncertainty of Nitrate data
87	NITRAT1	UMOL/KG	F9.2	Nitrate
88	NITRAT1_FLAG_W		I1	Quality flags for water samples
89	NITRAT2	UMOL/KG	F9.2	Nitrate (replicate)
90	NITRAT2_FLAG_W		I1	Quality flags for water samples
91	NITRIT	UMOL/KG	F9.2	Nitrite (Mean of replicate measurements)
92	NITRIT_FLAG_W		I1	Quality flags for water samples
93	NRIUNC	UMOL/KG	F9.2	Uncertainty of Nitrite data
94	NITRIT1	UMOL/KG	F9.2	Nitrite
95	NITRIT1_FLAG_W		I1	Quality flags for water samples
96	NITRIT2	UMOL/KG	F9.2	Nitrite (replicate)
97	NITRIT2_FLAG_W		I1	Quality flags for water samples
98	PHSPHT	UMOL/KG	F9.3	Phosphate (Mean of replicate measurements)
99	PHSPHT_FLAG_W		I1	Quality flags for water samples
100	PHPUNC	UMOL/KG	F9.3	Uncertainty of Phosphate data
101	PHSPHT1	UMOL/KG	F9.3	Phosphate
102	PHSPHT1_FLAG_W		I1	Quality flags for water samples
103	PHSPHT2	UMOL/KG	F9.3	Phosphate (replicate)
104	PHSPHT2_FLAG_W		I1	Quality flags for water samples
105	NH4	UMOL/KG	F9.2	Ammonium (Mean of replicate measurements)
106	NH4_FLAG_W		I1	Quality flags for water samples
107	NH4UNC	UMOL/KG	F9.2	Uncertainty of Ammonium data
108	NH41	UMOL/KG	F9.2	Ammonium
109	NH41_FLAG_W		I1	Quality flags for water samples
110	NH42	UMOL/KG	F9.2	Ammonium (replicate)
111	NH42_FLAG_W		I1	Quality flags for water samples
112	TCARBN	UMOL/KG	F9.1	Total Carbon CT
113	TCARBN_FLAG_W		I1	Quality flags for water samples
114	TCARBN_1	UMOL/KG	F9.1	Total Carbon CT (replicate)
115	TCARBN_1_FLAG_W		I1	Quality flags for water samples
116	ALKALI	UMOL/KG	F9.1	Total alkalinity
117	ALKALI_FLAG_W		I1	Quality flags for water samples
118	ALKALI_1	UMOL/KG	F9.1	Total alkalinity (replicate)
119	ALKALI_1_FLAG_W		I1	Quality flags for water samples
120	PH		F9.4	pH
121	PH_FLAG_W		I1	Quality flags for water samples
122	PH_1		F9.4	pH (replicate)
123	PH_1_FLAG_W		I1	Quality flags for water samples
124	d-POC_1	mgC/m^3/day	F9.4	Carbon uptake rate
125	d-POC_1_FLAG_W		I1	Quality flags for water samples
126	d-POC_2	mgC/m^3/day	F9.4	Carbon uptake rate (replicate)
127	d-POC_2_FLAG_W		I1	Quality flags for water samples
128	d-POC_3	mgC/m^3/day	F9.4	Carbon uptake rate(triplicate)
129	d-POC_3_FLAG_W		I1	Quality flags for water samples
130	d-POC_Dark	mgC/m^3/day	F9.4	Carbon uptake rate (dark)
131	d-POC_Dark_FLAG_W		I1	Quality flags for water samples
132	CHLWEL	MG/CUM	F9.2	Chlorophyll-a measured by the laboratory fluorometer
133	CHLWEL_FLAG_W		I1	Quality flags for water samples
134	CHLWEL_1	MG/CUM	F9.2	Chlorophyll-a measured by the laboratory fluorometer (replicate)
135	CHLWEL_1_FLAG_W		I1	Quality flags for water samples
136	CHLHPLC	MG/CUM	F9.3	Chlorophyll a measured by HPLC
137	CHLHPLC_FLAG_W		I1	Quality flags for water samples
138	SIZECHL>10um	MG/CUM	F9.2	Chlorophyll a > 10um
139	SIZECHL>10um_FLAG_W		I1	Quality flags for water samples
140	SIZECHL3-10um	MG/CUM	F9.2	Chlorophyll a 3-10um
141	SIZECHL3-10um_FLAG_W		I1	Quality flags for water samples
142	SIZECHL1-3um	MG/CUM	F9.2	Chlorophyll a 1-3um

Column No.	Column Heading Mnemonic	Units Mnemonic	Reporting Precision FORTRAN Format	Comments
143	SIZECHL<1.3um_FLAG_W		I1	Quality flags for water samples
144	SIZECHL<1um	MG/CUM	F9.2	Chlorophyll a < 1um
145	SIZECHL<1um_FLAG_W		I1	Quality flags for water samples
146	CHLC3	MG/CUM	F9.3	Chlorophyll c3
147	CHLC3_FLAG_W		I1	Quality flags for water samples
148	CHLIDEA	MG/CUM	F9.3	Chlorophyllide a
149	CHLIDEA_FLAG_W		I1	Quality flags for water samples
150	CHLC2	MG/CUM	F9.3	Chlorophyll c2
151	CHLC2_FLAG_W		I1	Quality flags for water samples
152	PERID	MG/CUM	F9.3	Peridinin
153	PERID_FLAG_W		I1	Quality flags for water samples
154	PHIDEA	MG/CUM	F9.3	Pheophorbide a
155	PHIDEA_FLAG_W		I1	Quality flags for water samples
156	BUTFUCO	MG/CUM	F9.3	19'-butanoyloxyfucoxanthin
157	BUTFUCO_FLAG_W		I1	Quality flags for water samples
158	FUCO	MG/CUM	F9.3	Fucoxanthin
159	FUCO_FLAG_W		I1	Quality flags for water samples
160	NEO	MG/CUM	F9.3	9'-*cis*-Neoxanthin
161	NEO_FLAG_W		I1	Quality flags for water samples
162	PRAS	MG/CUM	F9.3	Prasinoxanthin
163	PRAS_FLAG_W		I1	Quality flags for water samples
164	HEXFUCO	MG/CUM	F9.3	19'-hexanoyloxyfucoxanthin
165	HEXFUCO_FLAG_W		I1	Quality flags for water samples
166	VIOLA	MG/CUM	F9.3	Violaxanthin
167	VIOLA_FLAG_W		I1	Quality flags for water samples
168	DIADINO	MG/CUM	F9.3	Diadinoxanthin
169	DIADINO_FLAG_W		I1	Quality flags for water samples
170	ALLO	MG/CUM	F9.3	Alloxanthin
171	ALLO_FLAG_W		I1	Quality flags for water samples
172	DIATO	MG/CUM	F9.3	Diatoxanthin
173	DIATO_FLAG_W		I1	Quality flags for water samples
174	ZEA	MG/CUM	F9.3	Zeaxanthin
175	ZEA_FLAG_W		I1	Quality flags for water samples
176	LUT	MG/CUM	F9.3	Lutein
177	LUT_FLAG_W		I1	Quality flags for water samples
178	CHLB	MG/CUM	F9.3	Chlorophyll b
179	CHLB_FLAG_W		I1	Quality flags for water samples
180	PHYTINA	MG/CUM	F9.3	Pheophytin a
181	PHYTINA_FLAG_W		I1	Quality flags for water samples
182	ALPHAC	MG/CUM	F9.3	Alpha-carotene
183	ALPHAC_FLAG_W		I1	Quality flags for water samples
184	BETAC	MG/CUM	F9.3	Beta-carotene
185	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)

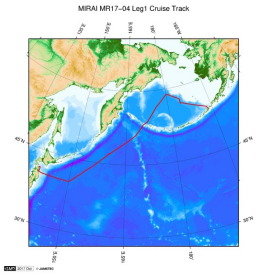
Format Information

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	CTDTMP_1[ITS-90]	Temperature (secondary sensor)
17	QF	Quality flags for CTD data
18	SBE35[ITS-90]	Temperature from Deep Ocean Standards Thermometer
19	QF	Quality flags for CTD data
20	CTDSAL[PSS-78]	Salinity (primary sensor)
21	QF	Quality flags for CTD data
22	CTDSAL_1[PSS-78]	Salinity (secondary sensor)
23	QF	Quality flags for CTD data
24	CTDCND[S/M]	Conductivity (primary sensor)
25	QF	Quality flags for CTD data
26	CTDCND_1[S/M]	Conductivity (secondary sensor)
27	QF	Quality flags for CTD data
28	DNSSAL[G/KG]	Quality-controlled density salinity data
29	QF	Quality flags for water samples
30	DNSSAL_1[G/KG]	Quality-controlled density salinity data (replicate)
31	QF	Quality flags for water samples
32	CTDOXY[UMOL/KG]	CTD-oxygen (primary sensor RINKOIII using primary T and S)
33	QF	Quality flags for CTD data

Column No.	Column Heading	Comments
34	CTDOXY_1[UMOL/KG]	CTD-oxygen (primary sensor RINKOIII using secondary T and S)
35	QF	Quality flags for CTD data
36	CTDOXY_2[UMOL/KG]	CTD-oxygen (secondary sensor SBE43)
37	QF	Quality flags for CTD data
38	CTDOXV[V]	CTD-oxygen voltage (primary sensor)
39	QF	Quality flags for CTD data
40	CTDOXV_2[V]	CTD-oxygen voltage (secondary sensor)
41	QF	Quality flags for CTD data
42	THETA[DEG C]	Potential temperature (primary sensor)
43	QF	Quality flags for CTD data
44	THETA_1[DEG C]	Potential temperature (secondary sensor)
45	QF	Quality flags for CTD data
46	SIG0[KG/CUM]	Density (primary sensor)
47	QF	Quality flags for CTD data
48	SIG0_1[KG/CUM]	Density (secondary sensor)
49	QF	Quality flags for CTD data
50	XMISS[%TRANS]	Transmittance
51	QF	Quality flags for CTD data
52	XMISSCP[/METER]	Beam attenuation coefficient
53	QF	Quality flags for CTD data
54	XMISSV[V]	Transmissometer voltage
55	QF	Quality flags for CTD data
56	FLUOR[MG/CUM]	Chlorophyll-a measured by the fluorometer attached to CTD
57	QF	Quality flags for CTD data
58	PAR[UE/SQM/S]	PAR
59	QF	Quality flags for CTD data
60	TURB[FTU]	Turbidity (primary sensor)
61	QF	Quality flags for CTD data
62	TURB_1[FTU]	Turbidity (secondary sensor)
63	QF	Quality flags for CTD data
64	SALNTY[PSS-78]	Bottle Salinity
65	QF	Quality flags for water samples
66	SALNTY_1[PSS-78]	Bottle Salinity (replicate)
67	QF	Quality flags for water samples
68	OXYGEN[UMOL/KG]	Bottle Oxygen
69	QF	Quality flags for water samples
70	OXYGEN_1[UMOL/KG]	Bottle Oxygen (replicate)
71	QF	Quality flags for water samples
72	SILCAT[UMOL/KG]	Silicate (Mean of replicate measurements)
73	QF	Quality flags for water samples
74	SILUNC	Uncertainty of Silicate data
75	QF	Quality flags for water samples
76	SILCAT1[UMOL/KG]	Silicate
77	QF	Quality flags for water samples
78	SILCAT2[UMOL/KG]	Silicate (replicate)
79	QF	Quality flags for water samples
80	NITRAT[UMOL/KG]	Nitrate (Mean of replicate measurements)
81	QF	Quality flags for water samples
82	NRAUNC	Uncertainty of Nitrate data
83	QF	Quality flags for water samples
84	NITRAT1[UMOL/KG]	Nitrate
85	QF	Quality flags for water samples
86	NITRAT2[UMOL/KG]	Nitrate (replicate)
87	QF	Quality flags for water samples
88	NITRIT[UMOL/KG]	Nitrite (Mean of replicate measurements)
89	QF	Quality flags for water samples
90	NRIUNC	Uncertainty of Nitrite data
91	QF	Quality flags for water samples
92	NITRIT1[UMOL/KG]	Nitrite
93	QF	Quality flags for water samples
94	NITRIT2[UMOL/KG]	Nitrite (replicate)
95	QF	Quality flags for water samples
96	PHSPHT[UMOL/KG]	Phosphate (Mean of replicate measurements)
97	QF	Quality flags for water samples
98	PHPUNC	Uncertainty of Phosphate data
99	QF	Quality flags for water samples
100	PHSPHT1[UMOL/KG]	Phosphate
101	QF	Quality flags for water samples
102	PHSPHT2[UMOL/KG]	Phosphate (replicate)
103	QF	Quality flags for water samples
104	NH4[UMOL/KG]	Ammonium (Mean of replicate measurements)
105	QF	Quality flags for water samples
106	NH4UNC	Uncertainty of Ammonium data
107	QF	Quality flags for water samples
108	NH41[UMOL/KG]	Ammonium
109	QF	Quality flags for water samples
110	NH42[UMOL/KG]	Ammonium (replicate)
111	QF	Quality flags for water samples
112	TCARBN[UMOL/KG]	Total Carbon CT
113	QF	Quality flags for water samples
114	TCARBN_1[UMOL/KG]	Total Carbon CT (replicate)
115	QF	Quality flags for water samples

Column No.	Column Heading	Comments
116	ALKALI[UMOL/KG]	Total alkalinity
117	QF	Quality flags for water samples
118	ALKALI_1[UMOL/KG]	Total alkalinity (replicate)
119	QF	Quality flags for water samples
120	PH	pH
121	QF	Quality flags for water samples
122	PH_1	pH (replicate)
123	QF	Quality flags for water samples
124	d-POC_1[mgC/m^3/day]	Carbon uptake rate
125	QF	Quality flags for water samples
126	d-POC_2[mgC/m^3/day]	Carbon uptake rate (replicate)
127	QF	Quality flags for water samples
128	d-POC_3[mgC/m^3/day]	Carbon uptake rate(triplicate)
129	QF	Quality flags for water samples
130	d-POC_Dark[mgC/m^3/day]	Carbon uptake rate (dark)
131	QF	Quality flags for water samples
132	CHLWEL[MG/CUM]	Chlorophyll-a measured by the laboratory fluorometer
133	QF	Quality flags for water samples
134	CHLWEL_1[MG/CUM]	Chlorophyll-a measured by the laboratory fluorometer (replicate)
135	QF	Quality flags for water samples
136	CHLHPLC[MG/CUM]	Chlorophyll a measured by HPLC
137	QF	Quality flags for water samples
138	SIZECHL>10um[MG/CUM]	Chlorophyll a > 10um
139	QF	Quality flags for water samples
140	SIZECHL3-10um[MG/CUM]	Chlorophyll a 3-10um
141	QF	Quality flags for water samples
142	SIZECHL1-3um[MG/CUM]	Chlorophyll a 1-3um
143	QF	Quality flags for water samples
144	SIZECHL<1um[MG/CUM]	Chlorophyll a < 1um
145	QF	Quality flags for water samples
146	CHLC3[MG/CUM]	Chlorophyll c3
147	QF	Quality flags for water samples
148	CHLIDEA[MG/CUM]	Chlorophyllide a
149	QF	Quality flags for water samples
150	CHLC2[MG/CUM]	Chlorophyll c2
151	QF	Quality flags for water samples
152	PERID[MG/CUM]	Peridinin
153	QF	Quality flags for water samples
154	PHIDEA[MG/CUM]	Pheophorbide a
155	QF	Quality flags for water samples
156	BUTFUCO[MG/CUM]	19'-butanoyloxyfucoxanthin
157	QF	Quality flags for water samples
158	FUCO[MG/CUM]	Fucoxanthin
159	QF	Quality flags for water samples
160	NEO[MG/CUM]	9'-*cis*-Neoxanthin
161	QF	Quality flags for water samples
162	PRAS[MG/CUM]	Prasinoxanthin
163	QF	Quality flags for water samples
164	HEXFUCO[MG/CUM]	19'-hexanoyloxyfucoxanthin
165	QF	Quality flags for water samples
166	VIOLA[MG/CUM]	Violaxanthin
167	QF	Quality flags for water samples
168	DIADINO[MG/CUM]	Diadinoxanthin
169	QF	Quality flags for water samples
170	ALLO[MG/CUM]	Alloxanthin
171	QF	Quality flags for water samples
172	DIATO[MG/CUM]	Diatoxanthin
173	QF	Quality flags for water samples
174	ZEA[MG/CUM]	Zeaxanthin
175	QF	Quality flags for water samples
176	LUT[MG/CUM]	Lutein
177	QF	Quality flags for water samples
178	CHLB[MG/CUM]	Chlorophyll b
179	QF	Quality flags for water samples
180	PHYTINA[MG/CUM]	Pheophytin a
181	QF	Quality flags for water samples
182	ALPHAC[MG/CUM]	Alpha-carotene
183	QF	Quality flags for water samples
184	BETAC[MG/CUM]	Beta-carotene
185	QF	Quality flags for water samples
186	SAMPNO	Sample Number
187	QF	Bottle quality flags

Related Information



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MR17-04 Leg1
Ship Name: MIRAI
Period: 2017-07-10 - 2017-08-02
Chief Scientist: Tetsuichi Fujiki (JAMSTEC)
Project Name: [Station K2]
Proposal Title: Collaborative experiment on Biogeochemical and Ecosystem Studies for sub-Arctic sea

Update History

2019-09-20	An observation data was registerd.

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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

MIRAI MR17-04 Leg1 Bottle Sampling Water Chemical Analysis

Last Modified: 2019-09-20

ReadMe | Observation Data | Data Format | Quality Information

Cruise ID: MR17-04 Leg1

Bottle Sampling Water Chemical Analysis: Processed (DMO)-QCed

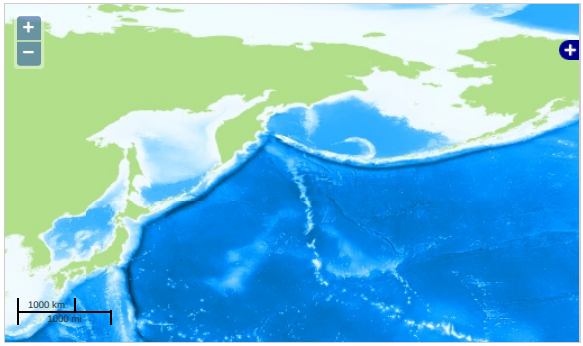
Data Policy: JAMSTEC

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

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	> pH	
OCEANS	> OCEAN CHEMISTRY	> PHOSPHATE	
OCEANS	> OCEAN CHEMISTRY	> SILICATE	
OCEANS	> OCEAN CHEMISTRY	> SALINITY	
BIOSPHERE	> VEGETATION	> CHLOROPHYLL	
OCEANS	> OCEAN CHEMISTRY	> CHLOROPHYLL	
OCEANS	> OCEAN TEMPERATURE	> WATER TEMPERATURE	
OCEANS	> SALINITY/DENSITY	> SALINITY	
BIOSPHERE	> AQUATIC ECOSYSTEMS	> PLANKTON	> PHYTOPLANKTON
OCEANS	> OCEAN OPTICS	> PHOTOSYNTHETICALLY ACTIVE RADIATION	
BIOSPHERE	> ECOLOGICAL DYNAMICS	> ECOSYSTEM FUNCTIONS	> PRIMARY PRODUCTION
OCEANS	> OCEAN CHEMISTRY	> ALKALINITY	
BIOSPHERE	> ECOLOGICAL DYNAMICS	> ECOSYSTEM FUNCTIONS	> PHOTOSYNTHESIS
OCEANS	> OCEAN CHEMISTRY	> CARBON	
OCEANS	> OCEAN OPTICS	> FLUORESCENCE	
OCEANS	> OCEAN TEMPERATURE	> POTENTIAL TEMPERATURE	

Observation Map



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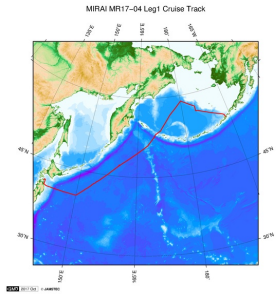
Data List

Add to Basket

File names
MR170401_ex_bot.csv
MR170401_odv_bot.txt

Related Information



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