

MIRAI MR97-02 Bottle Sampling Water Chemical Analysis

Last Modified: 2018-03-31

ReadMe

Cruise ID: [MR97-02](#)

Bottle Sampling Water Chemical Analysis: Processed (PI)

Data Policy: [JAMSTEC](#)

Observation Items: Temperature, Salinity, Dissolved oxygen, Silicate, Nitrate, Nitrite, Phosphate, Total inorganic carbon, Alkalinity, Potential temperature, Density

Science Keywords:

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 TEMPERATURE > WATER TEMPERATURE
OCEANS > SALINITY/DENSITY > SALINITY
OCEANS > OCEAN CHEMISTRY > ALKALINITY
OCEANS > OCEAN CHEMISTRY > CARBON
OCEANS > OCEAN TEMPERATURE > POTENTIAL TEMPERATURE

For Using Data

Principal Investigator

CTDTMP : Chizuru Saitoh/Makio Honda (JAMSTEC)
CTDSAL : Chizuru Saitoh/Makio Honda (JAMSTEC)
SALNTY : Chizuru Saitoh (JAMSTEC)
CTDOXY : Chizuru Saitoh/Makio Honda (JAMSTEC)
OXYGEN : Chizuru Saitoh (JAMSTEC)
SILCAT : Chizuru Saitoh (JAMSTEC)
NITRAT : Chizuru Saitoh (JAMSTEC)
NITRIT : Chizuru Saitoh (JAMSTEC)
PHSPHT : Chizuru Saitoh (JAMSTEC)
TCARBON : Makio Honda/Akihiko Murata/Naoami Harada/Yuichiro Kumamoto (JAMSTEC)
ALKALI : Makio Honda/Akihiko Murata/Naoami Harada/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:

Nutrient analyzer(4ch) (- MR09-01)



Instrument:

Total dissolved inorganic carbon measurement system (- MR11-E02)



Instrument:

Titration for DO (- MR11-05 Leg2)



Instrument:

Titration for total alkalinity (- MR14-02)



Notice

Only the data obtained at Station KNOT (44N, 155E) can be available, while the other data are closed as preliminary data. If you need the data corrected for systematic errors among other cruises visiting St. KNOT, please refer to ["Hydrographic Data at Station K2 and KNOT"](#).

Information on CTD data

-- Large-CTD/RMS

(1) Temperature sensor

Model: SBE3-04/F, Sea-Bird Electronics, Inc.

Serial No.: Primary S/N 031525, Secondary S/N 031464

(2) Salinity sensor Model: SBE4-04/O, Sea-Bird Electronics, Inc.

Serial No.: Primary S/N 041205, Secondary S/N 041206

(3) Pressure sensor Model: SBE9plus, Sea-Bird Electronics, Inc.

Serial No.: S/N 42410
(4) DO sensor
Model: SBE13-04, Sea-Bird Electronics, Inc.
Serial No.: S/N 130339

-- Small-CTD/RMS

(1) Temperature sensor
Model: SBE3-04/F, Sea-Bird Electronics, Inc.
Serial No.: Primary S/N 031524, Secondary S/N 031359
(2) Salinity sensor Model: SBE4-04/O, Sea-Bird Electronics, Inc.
Serial No.: Primary S/N 041202, Secondary S/N 041203
(3) Pressure sensor Model: SBE9plus, Sea-Bird Electronics, Inc.
Serial No.: S/N 42423
(4) DO sensor
Model: SBE13-04, Sea-Bird Electronics, Inc.
Serial No.: S/N 130338

Information on Chemical and Biological data

1. Dissolved Oxygen
(1)Instruments: Titrator: Model 716 DMS Titrino (Metrohm)
Detector: Pt electrode
(2)Methods: Winkler method/potentiometric method
(3)Precision: Standard deviation (2 sigma) of 0.012ml/l (0.17% of D.O. max., 7.048ml/l in this cruise)
(4)Reference Material/Calibration: 0.0100N KIO₃ solution/Comparison with CSK standard solution (Wako pure chemical industries, Ltd.)
2. Salinity
(1)Instruments: Autosal salinometer model 8400B (Guildline Instruments Ltd.)
(2)Methods: -
(3)Precision: -
(4)Reference Material/Calibration: IAPSO Standard Sea Water batch P128 and P133 (Ocean Scientific International Ltd.)
3. Silicate
(1)Instruments: TRAACS800 (Bran+Luebbe)
(2)Methods: Molybdenum blue method
(3)Precision: From 0.11 to 2.0% except nitrite (CV%)
(4)Reference Material/Calibration: -
4. Nitrate
(1)Instruments: TRAACS800 (Bran+Luebbe)
(2)Methods: Diazotization method (reduced to nitrite by Cd - Cu tube)
(3)Precision: From 0.11 to 2.0% except nitrite (CV%)
(4)Reference Material/Calibration: -
5. Nitrite
(1)Instruments: TRAACS800 (Bran+Luebbe)
(2)Methods: Diazotization method
(3)Precision: -
(4)Reference Material/Calibration: -
6. Phosphate
(1)Instruments: TRAACS800 (Bran+Luebbe)
(2)Methods: Molybdenum blue method
(3)Precision: From 0.11 to 2.0% except nitrite (CV%)
(4)Reference Material/Calibration: -
7. Total inorganic carbon
(1)Instruments: Coulometer 5012 (UIC Inc.)
(2)Methods: coulometry
(3)Precision: less than 0.2%
(4)Reference Material/Calibration: Na₂CO₃ solution and the CRM provided by Dr. Dickson in Scripps Institute of Oceanography
8. Total Alkalinity
(1)Instruments: auto-burette (Radiometer, ABU901), a pH glass electrode (Radiometer REF201), a reference electrode (Radiometer REF201)
(2)Methods: potentiometry
(3)Precision: -
(4)Reference Material/Calibration: -

Related Information



MR97-02
Ship Name: MIRAI
Period: 1997-11-10 - 1997-12-06
Project Name: [Station KNOT]

Update History

2018-03-31	An observation data was registerd.
2018-03-30	An observation data was registerd.

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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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MIRAI MR97-02 Bottle Sampling Water Chemical Analysis

Last Modified: 2018-03-31

ReadMe

Cruise ID: [MR97-02](#)

Bottle Sampling Water Chemical Analysis: Processed (PI)

Data Policy: [JAMSTEC](#)

Observation Items: Temperature, Salinity, Dissolved oxygen, Silicate, Nitrate, Nitrite, Phosphate, Total inorganic carbon, Alkalinity, Potential temperature, Density

Science Keywords:

OCEANS > OCEAN CHEMISTRY	> INORGANIC CARBON
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OCEANS > OCEAN CHEMISTRY	> SALINITY
OCEANS > OCEAN	> WATER TEMPERATURE
OCEANS > TEMPERATURE	
OCEANS > SALINITY/DENSITY	> SALINITY
OCEANS > OCEAN CHEMISTRY	> ALKALINITY
OCEANS > OCEAN CHEMISTRY	> CARBON
OCEANS > OCEAN	> POTENTIAL
OCEANS > TEMPERATURE	TEMPERATURE

For Using Data

Principal Investigator

CTDTMP : Chizuru Saitoh/Makio Honda (JAMSTEC)
 CTDSAL : Chizuru Saitoh/Makio Honda (JAMSTEC)
 SALNTY : Chizuru Saitoh (JAMSTEC)
 CTDOXY : Chizuru Saitoh/Makio Honda (JAMSTEC)
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 TCARBON : Makio Honda/Akihiko Murata/Naomi Harada/Yuichiro Kumamoto (JAMSTEC)
 ALKALI : Makio Honda/Akihiko Murata/Naomi Harada/Yuichiro Kumamoto (JAMSTEC)

Use Constraints

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Instrument

Instrument:

Salinity measurement system



Instrument:

Nutrient analyzer(4ch) (- MR09-01)



Instrument:

Total dissolved inorganic carbon measurement system (- MR11-E02)



Instrument:

Titration for DO (- MR11-05 Leg2)



Instrument:

Titration for total alkalinity (- MR14-02)



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Information on CTD data

-- Large-CTD/RMS

- (1) Temperature sensor
Model: SBE3-04/F, Sea-Bird Electronics, Inc.
Serial No.: Primary S/N 031525, Secondary S/N 031464
- (2) Salinity sensor Model: SBE4-04/O, Sea-Bird Electronics, Inc.
Serial No.: Primary S/N 041205, Secondary S/N 041206
- (3) Pressure sensor Model: SBE9plus, Sea-Bird Electronics, Inc.
Serial No.: S/N 42410
- (4) DO sensor
Model: SBE13-04, Sea-Bird Electronics, Inc.
Serial No.: S/N 130339

-- Small-CTD/RMS

- (1) Temperature sensor

(4) Temperature sensor

Model: SBE3-04/F, Sea-Bird Electronics, Inc.
Serial No.: Primary S/N 031524, Secondary S/N 031359
(2) Salinity sensor Model: SBE4-04/O, Sea-Bird Electronics, Inc.
Serial No.: Primary S/N 041202, Secondary S/N 041203
(3) Pressure sensor Model: SBE9plus, Sea-Bird Electronics, Inc.
Serial No.: S/N 42423
(4) DO sensor
Model: SBE13-04, Sea-Bird Electronics, Inc.
Serial No.: S/N 130338

Information on Chemical and Biological data

1. Dissolved Oxygen
(1)Instruments: Titrator: Model 716 DMS Titrino (Metrohm)
Detector: Pt electrode
(2)Methods: Winkler method/potentiometric method
(3)Precision: Standard deviation (2 sigma) of 0.012ml/l (0.17% of D.O. max., 7.048ml/l in this cruise)
(4)Reference Material/Calibration: 0.0100N KIO₃ solution/Comparison with CSK standard solution (Wako pure chemical industries, Ltd.)
2. Salinity
(1)Instruments: Autosal salinometer model 8400B (Guildline Instruments Ltd.)
(2)Methods: -
(3)Precision: -
(4)Reference Material/Calibration: IAPSO Standard Sea Water batch P128 and P133 (Ocean Scientific International Ltd.)
3. Silicate
(1)Instruments: TRAACS800 (Bran+Luebbe)
(2)Methods: Molybdenum blue method
(3)Precision: From 0.11 to 2.0% except nitrite (CV%)
(4)Reference Material/Calibration: -
4. Nitrate
(1)Instruments: TRAACS800 (Bran+Luebbe)
(2)Methods: Diazotization method (reduced to nitrite by Cd - Cu tube)
(3)Precision: From 0.11 to 2.0% except nitrite (CV%)
(4)Reference Material/Calibration: -
5. Nitrite
(1)Instruments: TRAACS800 (Bran+Luebbe)
(2)Methods: Diazotization method
(3)Precision: -
(4)Reference Material/Calibration: -
6. Phosphate
(1)Instruments: TRAACS800 (Bran+Luebbe)
(2)Methods: Molybdenum blue method
(3)Precision: From 0.11 to 2.0% except nitrite (CV%)
(4)Reference Material/Calibration: -
7. Total inorganic carbon
(1)Instruments: Coulometer 5012 (UIC Inc.)
(2)Methods: coulometry
(3)Precision: less than 0.2%
(4)Reference Material/Calibration: Na₂CO₃ solution and the CRM provided by Dr. Dickson in Scripps Institute of Oceanography
8. Total Alkalinity
(1)Instruments: auto-burette (Radiometer, ABU901), a pH glass electrode (Radiometer REF201), a reference electrode (Radiometer REF201)
(2)Methods: potentiometry
(3)Precision: -
(4)Reference Material/Calibration: -

Related Information



MR97-02
Ship Name: MIRAI
Period: 1997-11-10 - 1997-12-06
Project Name: [Station KNOT]

Update History

2018-03-31	An observation data was registerd.
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MIRAI MR97-02 Bottle Sampling Water Chemical Analysis

Last Modified: 2018-03-31

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Cruise ID: [MR97-02](#)

Bottle Sampling Water Chemical Analysis: Processed (PI)

Data Policy: [JAMSTEC](#)

Observation Items: Temperature, Salinity, Dissolved oxygen, Silicate, Nitrate, Nitrite, Phosphate, Total inorganic carbon, Alkalinity, Potential temperature, Density

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Principal Investigator

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Instrument:

Total dissolved inorganic carbon measurement system (- MR11-E02)



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Instrument:

Titration for total alkalinity (- MR14-02)



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Model: SBE13-04, Sea-Bird Electronics, Inc.
Serial No.: S/N 130339

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Serial No.: Primary S/N 041202, Secondary S/N 041203
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Model: SBE13-04, Sea-Bird Electronics, Inc.
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(3)Precision: -
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(4)Reference Material/Calibration: -
5. Nitrite
(1)Instruments: TRAACS800 (Bran+Luebbe)
(2)Methods: Diazotization method
(3)Precision: -
(4)Reference Material/Calibration: -
6. Phosphate
(1)Instruments: TRAACS800 (Bran+Luebbe)
(2)Methods: Molybdenum blue method
(3)Precision: From 0.11 to 2.0% except nitrite (CV%)
(4)Reference Material/Calibration: -
7. Total inorganic carbon
(1)Instruments: Coulometer 5012 (UIC Inc.)
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(2)Methods: potentiometry
(3)Precision: -
(4)Reference Material/Calibration: -

Related Information



MR97-02
Ship Name: MIRAI
Period: 1997-11-10 - 1997-12-06
Project Name: [Station KNOT]

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6K Sonar DEEP TOW
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