

MIRAI MR06-04 Leg1 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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

Cruise ID: [MR06-04 Leg1](#)

Conductivity-Temperature-Depth Profiler (CTD): Processed (DMO)-QCed

Data Policy: [JAMSTEC](#)

Observation Items: Pressure, Temperature, Salinity, Dissolved oxygen

Science Keywords:

OCEANS > OCEAN CHEMISTRY > OXYGEN
OCEANS > OCEAN TEMPERATURE > WATER TEMPERATURE
OCEANS > SALINITY/DENSITY > SALINITY

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR06-04_leg1-2_all.pdf

For Using Data

Principal Investigator

Data Management Office

Use Constraints

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

Data Citation

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

Instrument

Instrument:

Water sampling system with CTD (30
litters * 24 bottles)



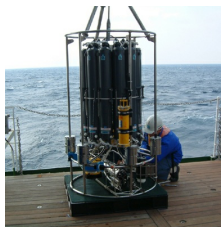
Instrument:

Water sampling system with CTD (12
litters * 36 bottles)



Instrument:

Water sampling system with CTD (12
litters * 12 bottles)



Instrument:

Conductivity temperature depth
measurements (CTD)



Overview

CTD(Conductivity-Temperature-Depth profiler) is used to observe the vertical profiles of temperature and conductivity.

Usually, this system is operated with multicylinder water sampler.

Observed signal is transmitted from sensor to the operation room on board using wire cable, and electric power is supplied from vessel to sensor.

Details of sensors attached to CTD system for MR06-04 Leg1 cruise are presented in "System".

The following software, developed and supplied by the Sea-Bird Electronics, Inc., was used in MR06-04 Leg1.

SEASAVE(ver 5.27b) for data acquisition

SEASOFT(ver 5.27b) for data processing

Data presented on this website is averaged over 1db.

System

• Pressure sensor

Model : SBE9plus, Sea-Bird Electronics, Inc.

Serial number : 42423

Measurement range : up to 10500m

Accuracy : 0.015% F.S.

Resolution : 0.001% F.S.

• Temperature sensor

Model : SBE3, Sea-Bird Electronics, Inc.

Serial number : 031359

Measurement range : -5.0 to +35degC

Accuracy : 0.001degC

Resolution : 0.0002degC

• Salinity sensor

Model : SBE4, Sea-Bird Electronics, Inc.

Serial number : 041172

Measurement range : 0.0 to 7 S/m

Accuracy : 0.0003 S/m

Resolution : 0.00004 S/m

- DO sensor

Model : SBE43, Sea-Bird Electronics, Inc.
 Serial number : 430205
 Measurement range : 120% of surface saturation
 Accuracy : 2% of saturation

Sensors used in each cast is as follows.

Cast name	Serial number of sensor			
	Pressure	Temperature	Salinity	Dissolved Oxygen
S01M01	42423	031359	041172	430205
S02M01	42423	031359	041172	430205
S02M02	42423	031359	041172	430205
S03M01	42423	031359	041172	430205
S03M02	42423	031359	041172	430205
S04M01	42423	031359	041172	430205
S04M02	42423	031359	041172	430205
S07M01	42423	031359	041172	430205
S06M01	42423	031359	041172	430205
S05M01	42423	031359	041172	430205

Calibration Information

Calibration Information is as follows.

[Calibration Information](#)

Data processing

(1) Data processing sequence for SEASOFT is as follows;

command	function
datcnv	Convert raw data to engineering units, and store converted data in file.
alignctd	Align data relative to pressure (typically used for conductivity, temperature, and oxygen).
wildedit	Mark a data value with badflag to eliminate wild points.
celltm	Perform conductivity thermal mass correction.
filter	Low-pass filter columns of data.
wfilter	Median filter removes spikes of fluorometer data.
section	Extract rows of data from file.
loopedit	Mark a scan with badflag if scan fails pressure reversal or minimum velocity tests.
derive	Calculate oxygen. (with oxygen sensor)
binavg	Average data, basing bins on pressure, depth, scan number, or time range.
derive	Calculate salinity, density, etc..
split	Split data in file into upcast and downcast files.

(2) Quality control

QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure.

- 1) The gradient check of adjacent depth data
- 2) The density inversion check
- 3) The broad range check set up at given ocean space and depth

Please see the site of NODC of the following link for quality control procedure in detail.

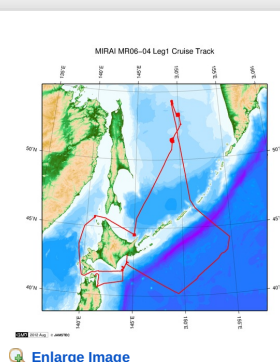
[QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA](#)

In addition, an abnormal value is identified by a visual check, and the data after visual QC is released.

Note

(1) In this cruise, there is extra data (fluorescence intensity, distance to bottom) in addition to temperature, salinity, dissolved oxygen that has been opened to the public. Please contact us from "Contact Us" above if necessary.

Related Information



MR06-04 Leg1

Ship Name: MIRAI
 Period: 2006-07-31 - 2006-08-19
 Chief Scientist: Naomi Harada (JAMSTEC)
 Project Name: [Paleoceanography Research]

[Enlarge Image](#)

Update History

2017-06-22	An observation data was registered.
2014-07-29	An observation data was registered.
2014-02-07	An observation data was registered.
2013-03-27	An observation data was registered.
2012-11-25	An observation data was registered.

JAMSTEC
 Site Policy
 Privacy Policy
 Application for Data and Samples
 Data Policy

Lists
 Publication List
 Amount of Public Info.
 Data
 Map Search

Information of the Ships
 NATSUSHIMA
 KAIYO
 YOKOSUKA
 MIRAI
 KAIREI

Information of the Submersibles
 KAIKO
 SHINKAI 2000
 SHINKAI 6500
 DEEP TOW

Go to a Cruise Information

Cruise ID:

Go to a Dive Information

What's New
Update History
Feeds

Data Tree
Detailed Search

CHIKYU
KAIMEI
SHINSEI MARU
HAKUHO MARU

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

Dive ID:

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

MIRAI MR06-04 Leg1 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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

 Cruise ID: [MR06-04 Leg1](#)

Conductivity-Temperature-Depth Profiler (CTD): Processed (DMO)-QCed

 Data Policy: [JAMSTEC](#)

CTD DMO

Format Description for the Corrected Data

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](#)

Data in following cruise is not expressed with Exchange Format. Please see the site of each cruise for format.

MR02-K05 Leg1

MR04-05

Format Description for the QCed Data

Each data file contains one line header (meta data) followed by data lines for each cast.

The number of data lines are recorded in the header.

Header part

No.	Column	Content	Format	Remarks
1	1	Header ID	a1	fixed as '#'
2	3 - 6	Data ID	a4	CTD
3	8 - 22	Cruise ID	a15	MYYY-(K)XX(_legx)
4	24 - 31	Cast name	a8	
5	33 - 40	Date	i8	YYYYMMDD (UTC)
6	42 - 45	Time	i4	hhmm (UTC)
7	47 - 55	Latitude	i2,a1,f5.2,a1	dd-mm.mmN(S)
8	57 - 66	Longitude	i3,a1,f5.2,a1	ddd-mm.mmE(W)
9	68 - 71	Number of data lines	i4	
10	72 - 73	Terminator	-	CR+LF

Data part

No.	Column	Content	Unit	Format	Remarks
1	1 - 11	Pressure	dbar	f11.3	
2	12 - 22	Temperature	deg-C	f11.4	ITS-90
3	23 - 33	Salinity	PSU	f11.4	PSS-78
4	34 - 44	Dissolved oxygen	umol/kg	f11.3	
5	45 - 55	Flag	-	i11	1 - 7 : space 8 : flag of pressure 9 : flag of temperature 10 : flag of salinity 11 : flag of dissolved oxygen * reference : Definition of Quality Control Flags
6	56 - 57	Terminator	-	-	CR+LF

Each contents of the data part is stored in 11 bytes.

Missing value is presented by '-5', and error value is presented by '-9'.

Definition of Quality Control Flags

1. Depth Flags

- 0 - accepted value
- 1 - error in recorded depth (same or less than previous depth)
- 2 - density inversion

2. Observed Level Flags

- N - missing value
- 0 - accepted value
- 1 - range outlier (outside of broad range check)
- 2 - failed inversion check
- 3 - failed gradient check
- 4 - zero anomaly
- 5 - failed combined gradient and inversion checks
- 6 - failed range and inversion checks
- 7 - failed range and gradient checks
- 8 - failed range and zero anomaly checks
- 9 - failed range and combined gradient and inversion checks
- A - failed visual check

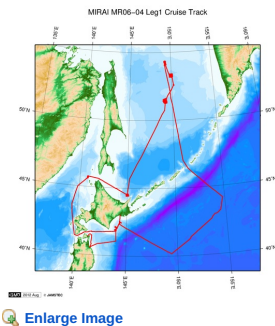
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

[QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA](#)

Sample Program

[ex_read2.f](#)

Related Information



MR06-04 Leg1
 Ship Name: MIRAI
 Period: 2006-07-31 - 2006-08-19
 Chief Scientist: Naomi Harada (JAMSTEC)
 Project Name: [Paleoceanography Research]

Update History

2017-06-22	An observation data was registerd.
2014-07-29	An observation data was registerd.
2014-02-07	An observation data was registerd.
2013-03-27	An observation data was registerd.
2012-11-25	An observation data was registerd.

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:

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

MIRAI MR06-04 Leg1 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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

Cruise ID: [MR06-04 Leg1](#)

Conductivity-Temperature-Depth Profiler (CTD): Processed (DMO)-QCed

Data Policy: [JAMSTEC](#)

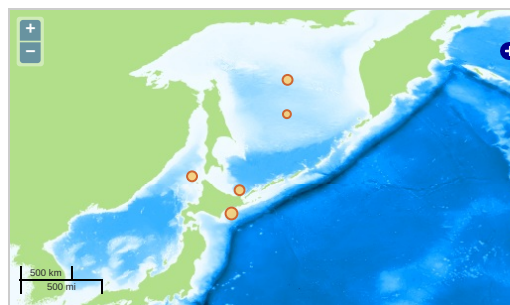
Observation Items: Pressure, Temperature, Salinity, Dissolved oxygen

Science Keywords:

OCEANS > OCEAN CHEMISTRY > OXYGEN
OCEANS > OCEAN > WATER
TEMPERATURE TEMPERATURE
OCEANS > SALINITY/DENSITY > SALINITY

Observation Map

1. Clicking the icon displays a balloon with observation information.
2. Then click the observation name, figures will be displayed.



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

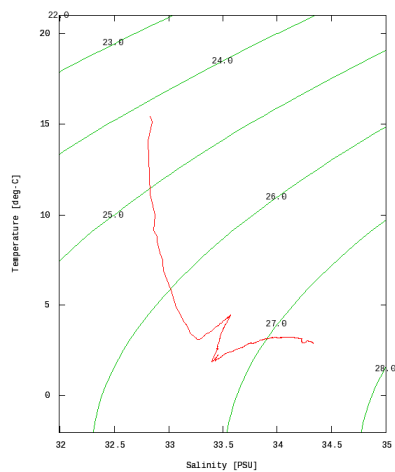
Imagery reproduced from ...

Figures

S01M01



MR06-04 Leg1: S01M01
Conductivity-Temperature-Depth Profiler (CTD): Salinity



Only values evaluated as "good : all flags are 0" are plotted in profiles.
Please see Format Page for the definition of quality flags.

Data List

[Add to Basket](#)

<input type="checkbox"/> File names
<input type="checkbox"/> S01M01.dat
<input type="checkbox"/> S02M01.dat
<input type="checkbox"/> S02M02.dat
<input type="checkbox"/> S03M01.dat
<input type="checkbox"/> S03M02.dat
<input type="checkbox"/> S04M01.dat
<input type="checkbox"/> S04M02.dat
<input type="checkbox"/> S05M01.dat
<input type="checkbox"/> S06M01.dat
<input type="checkbox"/> S07M01.dat
<input type="checkbox"/> ex_read2.f (Sample Program)

- Observation List
The list of observation is shown as follows.

Observation	Time and Date	Lat. [°]	Lon. [°]
S01M01	2006-08-02 01:01	42.4558	144.2866
S02M01	2006-08-04 00:30	41.8651	143.9425
S02M02	2006-08-04 04:00	41.8583	143.9448
S03M01	2006-08-06 01:44	45.7538	140.7841
S03M02	2006-08-06 23:56	45.7568	140.7828
S04M01	2006-08-07 23:51	44.5268	145.0048
S04M02	2006-08-08 03:00	44.5281	144.9940
S05M01	2006-08-14 23:28	54.3180	149.2655
S06M01	2006-08-12 23:38	53.2778	150.0776
S07M01	2006-08-10 23:48	51.2735	149.2070

Related Information

MIRAI MR06-04 Leg1 Cruise Track

[Enlarge Image](#)

MR06-04 Leg1
Ship Name: MIRAI
Period: 2006-07-31 - 2006-08-19
Chief Scientist: Naomi Harada (JAMSTEC)
Project Name: [Paleoceanography Research]

Update History

2017-06-22	An observation data was registerd.
2014-07-29	An observation data was registerd.
2014-02-07	An observation data was registerd.
2013-03-27	An observation data was registerd.
2012-11-25	An observation data was registerd.

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:

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