

MIRAI MR04-07 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-08-24

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Cruise ID: [MR04-07](#)

Conductivity-Temperature-Depth Profiler (CTD): Processed (PI)

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/MR04-07_all.pdf

For Using Data

Principal Investigator

Shuichi Watanabe (JAMSTEC)

Use Constraints

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

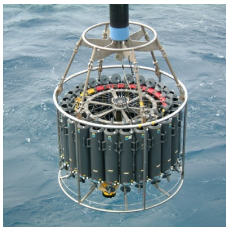
Data Citation

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

Instrument

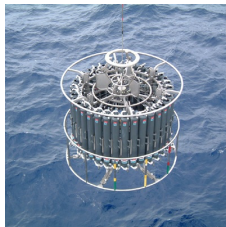
Instrument:

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



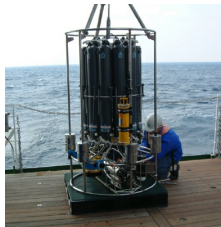
Instrument:

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



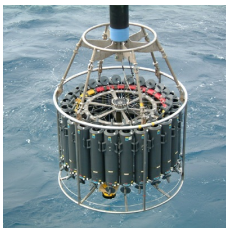
Instrument:

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 MR04-07 cruise are presented in "System".

The following software, developed and supplied by the Sea-Bird Electronics, Inc., was used in MR04-07.

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 : 79492

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 : 041203

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 : 430394
Measurement range : 120% of surface saturation
Accuracy : 2% of saturation

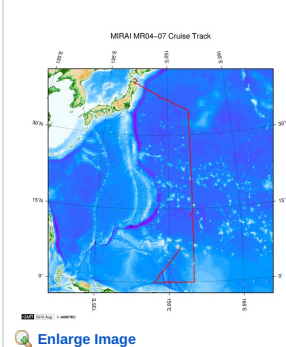
Note

(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) The time and position presented in the header is at the starting time of cast.

Related Information



MR04-07
Ship Name: MIRAI
Period: 2004-11-17 - 2004-12-09
Chief Scientist: Shuichi Watanabe (JAMSTEC)

Update History

2017-08-24	An observation data was registered.
2014-07-25	An observation data was registered.
2013-03-27	An observation data was registered.
2012-11-25	An observation data was registered.

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HAKUHO MARU

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6K Camera DEEP TOW
6K Sonar DEEP TOW
KM-ROV
POWER GRAB SAMPLER (SHELL)
POWER GRAB SAMPLER (CLOW)
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CTD WOCE-type2

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

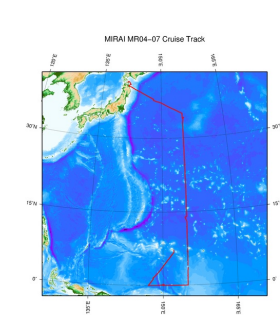
Data part

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'.

Related Information



[Enlarge Image](#)

MR04-07

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Period: 2004-11-17 - 2004-12-09

Chief Scientist: Shuichi Watanabe (JAMSTEC)

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BMS

Dive ID:

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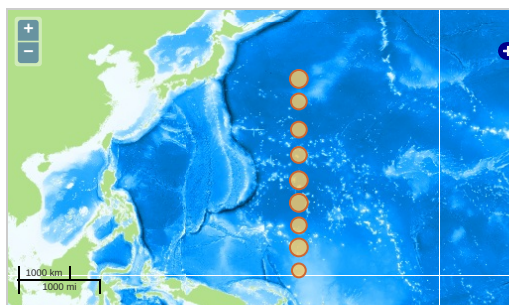
Observation Items: Pressure, Temperature, Salinity, Dissolved oxygen

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.

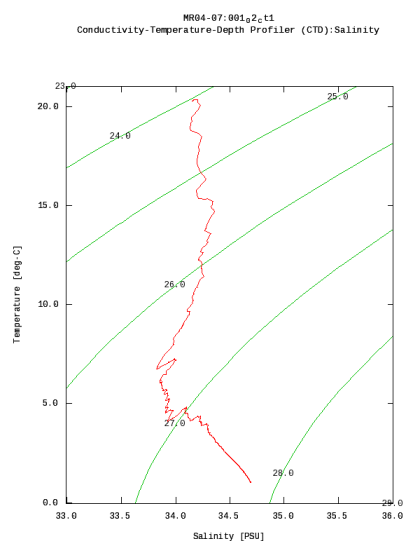


— ... Observation Line — ... Navigation ● ... Observation, Dive Point, Hole

Imagery reproduced from ...

Figures

001_02_ct1







Data List

[Add to Basket](#)

File names

<input type="checkbox"/>	001_02_ct1.csv
<input type="checkbox"/>	002_01_ct1.csv
<input type="checkbox"/>	002_02_ct1.csv
<input type="checkbox"/>	002_03_ct1.csv
<input type="checkbox"/>	003_01_ct1.csv
<input type="checkbox"/>	004_01_ct1.csv
<input type="checkbox"/>	005_01_ct1.csv
<input type="checkbox"/>	006_01_ct1.csv
<input type="checkbox"/>	006_02_ct1.csv
<input type="checkbox"/>	007_01_ct1.csv
<input type="checkbox"/>	008_01_ct1.csv
<input type="checkbox"/>	009_01_ct1.csv
<input type="checkbox"/>	010_01_ct1.csv

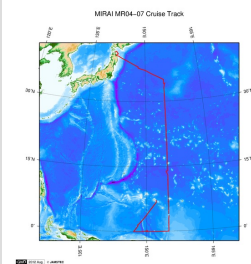
	002_01.csv
	010_03_ct1.csv
	011_01_ct1.csv
	012_01_ct1.csv
	013_01_ct1.csv
	013_02_ct1.csv
	014_01_ct1.csv
	015_01_ct1.csv
	016_01_ct1.csv
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	028_02_ct1.csv
	029_01_ct1.csv
	030_01_ct1.csv
	031_01_ct1.csv
	031_02_ct1.csv
	032_01_ct1.csv
	033_01_ct1.csv
	033_02_ct1.csv
	033_03_ct1.csv

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

Observation	Time and Date	Lat. [°]	Lon. [°]
001_02_ct1	2004-11-20 13:05	35.0070	154.9990
002_01_ct1	2004-11-20 23:05	34.0110	155.0360
002_02_ct1	2004-11-21 01:02	34.0400	155.1140
002_03_ct1	2004-11-21 07:05	34.0120	155.0290
003_01_ct1	2004-11-21 16:03	33.0000	155.0020
004_01_ct1	2004-11-22 02:06	32.0010	154.9990
005_01_ct1	2004-11-22 10:03	31.0020	155.0020
006_01_ct1	2004-11-22 18:05	30.0020	155.0000
006_02_ct1	2004-11-23 01:02	29.9840	154.9880
007_01_ct1	2004-11-23 06:04	29.0000	155.0000
008_01_ct1	2004-11-23 17:01	27.5080	154.9980
009_01_ct1	2004-11-24 04:03	26.0010	154.9990
010_01_ct1	2004-11-24 23:04	24.4900	155.0310
010_02_ct1	2004-11-25 01:00	24.4900	155.0460
010_03_ct1	2004-11-25 07:03	24.5000	154.9940
011_01_ct1	2004-11-25 17:04	23.0020	154.9980
012_01_ct1	2004-11-26 04:05	21.5000	155.0000
013_01_ct1	2004-11-26 20:00	20.0000	155.0010
013_02_ct1	2004-11-27 02:03	19.9980	155.0010
014_01_ct1	2004-11-27 07:03	19.0040	154.9980
015_01_ct1	2004-11-27 16:00	18.0010	154.9960
016_01_ct1	2004-11-28 08:00	17.0000	154.9980
017_01_ct1	2004-11-28 20:03	15.9960	154.9990
017_02_ct1	2004-11-29 03:00	16.0010	155.0000
018_01_ct1	2004-11-29 08:01	15.0040	154.9990
019_01_ct1	2004-11-29 16:02	14.0040	154.9980
019_02_ct1	2004-11-30 04:02	13.9980	155.0020
020_01_ct1	2004-11-30 11:03	13.0000	154.9990
021_01_ct1	2004-11-30 19:05	12.0000	155.0000
021_02_ct1	2004-12-01 03:00	12.0010	154.9990
022_01_ct1	2004-12-01 07:04	11.0010	155.0020
023_01_ct1	2004-12-01 16:01	10.0010	154.9990
023_02_ct1	2004-12-02 03:00	10.0010	155.0010
024_01_ct1	2004-12-02 08:04	9.0000	155.0000
025_01_ct1	2004-12-02 16:05	8.0010	155.0000
026_01_ct1	2004-12-03 00:03	6.9970	155.0040
026_02_ct1	2004-12-03 05:03	7.0020	155.0020
027_01_ct1	2004-12-03 13:00	6.0010	155.0000
028_01_ct1	2004-12-03 20:01	5.0870	155.0000
028_02_ct1	2004-12-04 05:04	5.0830	155.0020
029_01_ct1	2004-12-04 10:01	4.0880	155.0000
030_01_ct1	2004-12-04 17:01	3.0020	155.0010
031_01_ct1	2004-12-05 00:03	2.0000	154.9980
031_02_ct1	2004-12-05 03:00	2.0020	155.0000

Observation	Time and Date	Lat	Long
033_01_ct1	2004-12-05 17:03	0.0000	155.0000
033_02_ct1	2004-12-06 01:02	0.0000	155.0020
033_03_ct1	2004-12-06 03:02	0.0020	155.0000

Related Information



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