

MIRAI MR00-K05 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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

Cruise ID: [MR00-K05](#)

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

For Using Data

Principal Investigator

Data Management Office

Use Constraints

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

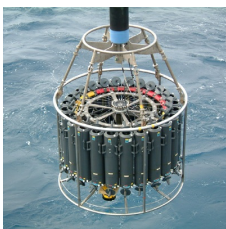
Data Citation

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

Instrument

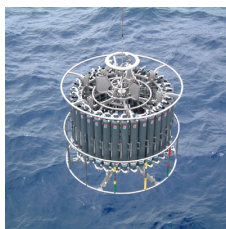
Instrument:

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



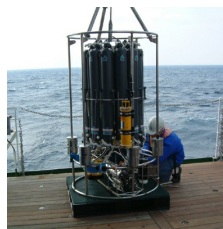
Instrument:

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



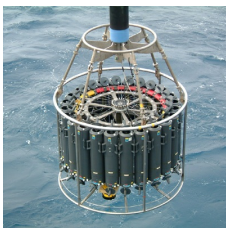
Instrument:

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 MR00-K05 cruise are presented in "System".

The following software, developed and supplied by the Sea-Bird Electronics, Inc., was used in MR00-K05.

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 : 51190

Measurement range : up to 10500m

Accuracy : 0.015% F.S.

Resolution : 0.001% F.S.

• 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 : 031524

Measurement range : -5.0 to +35degC

Accuracy : 0.001degC

Resolution : 0.0002degC

• Salinity sensor

Model : SBE4, Sea-Bird Electronics,Inc.

Serial number : 041202
Measurement range : 0.0 to 7 S/m
Accuracy : 0.0003 S/m
Resolution : 0.00004 S/m

• DO sensor

Model : SBE13, Sea-Bird Electronics, Inc.
Serial number : 130540
Measurement range : 0 to 15ml/l
Accuracy : 0.1ml/l
Resolution : 0.01ml/l

Sensors used in each cast is as follows.

Cast name	Serial number of sensor			
	Pressure	Temperature	Salinity	Dissolved Oxygen
P01S01	51190	031524	041202	130540
039S01	51190	031524	041202	130540
040S02	51190	031524	041202	130540
041S02	51190	031524	041202	130540
042L01	42423	031524	041202	130540
043L01	42423	031524	041202	130540
044S02	51190	031524	041202	130540
045S01	51190	031524	041202	130540
046S01	51190	031524	041202	130540
047S01	51190	031524	041202	130540
048S01	51190	031524	041202	130540
049S01	51190	031524	041202	130540
050S01	51190	031524	041202	130540
051S01	51190	031524	041202	130540
052S01	51190	031524	041202	130540
053S01	51190	031524	041202	130540
054S01	51190	031524	041202	130540
057S01	51190	031524	041202	130540
058S01	51190	031524	041202	130540
059S01	51190	031524	041202	130540
060S01	51190	031524	041202	130540
061S01	51190	031524	041202	130540
062S01	51190	031524	041202	130540
063S01	51190	031524	041202	130540
064S01	51190	031524	041202	130540
065S01	51190	031524	041202	130540
066S01	51190	031524	041202	130540
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068S01	51190	031524	041202	130540
069S01	51190	031524	041202	130540
070S01	51190	031524	041202	130540
071S01	51190	031524	041202	130540
072S01	51190	031524	041202	130540
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101S01	51190	031524	041202	130540
102S01	51190	031524	041202	130540
103S01	51190	031524	041202	130540
104S01	51190	031524	041202	130540

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.
section	Extract rows of data from file.
wildedit	Mark a data value with badflag to eliminate wild points.
binavg	Average data, basing bins on pressure, depth, scan number, or time range.
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.

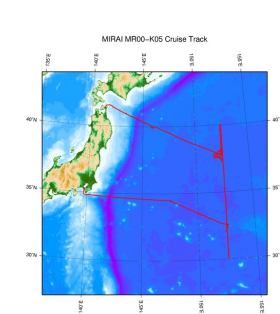
QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA

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 (distance to bottom) in additional to temperature, salinity, dissolved oxygen that has been opened to the public. Please contact us from "Contact Us" above if necessary.

Related Information



[Enlarge Image](#)

MR00-K05

Ship Name: MIRAI

Period: 2000-07-09 - 2000-08-01

Chief Scientist: Yasushi Yoshikawa (JAMSTEC)

Update History

2017-06-22	An observation data was registerd.
2014-07-12	An observation data was registerd.
2014-02-06	An observation data was registerd.
2014-02-05	An observation data was registerd.
2012-12-25	An observation data was registerd.

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Data

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国立研究開発法人
海洋研究開発機構

MIRAI MR00-K05 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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 Cruise ID: [MR00-K05](#)

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

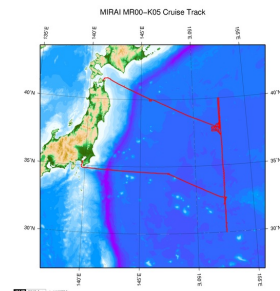
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

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

Sample Program

[ex_read2.f](#)

Related Information



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MR00-K05

Ship Name: MIRAI

Period: 2000-07-09 - 2000-08-01

Chief Scientist: Yasushi Yoshikawa (JAMSTEC)

Update History

2017-06-22	An observation data was registerd.
2014-07-12	An observation data was registerd.
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Data

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MIRAI MR00-K05 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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Cruise ID: [MR00-K05](#)

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

Data Policy: [JAMSTEC](#)

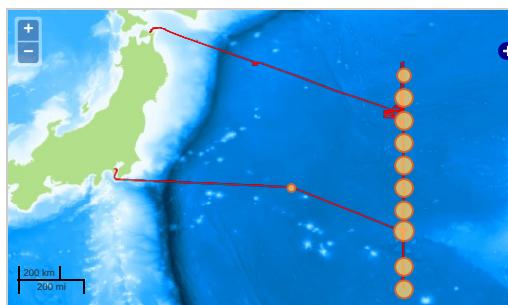
Observation Items: Pressure, Temperature, Salinity, Dissolved oxygen

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.



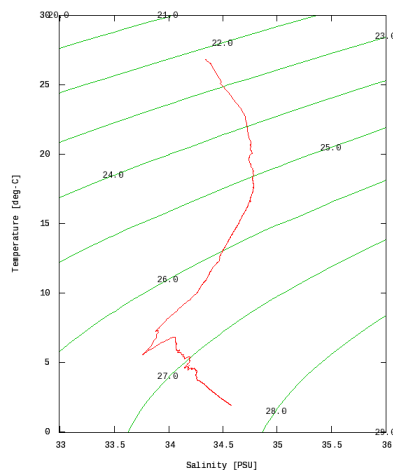
— ... Observation Line — ... Navigation ● ... Observation, Dive Point, Hole

Figures

039S01



MR00-K05: 039S01
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](#)

☐ File names

<input type="checkbox"/> 039S01.dat
<input type="checkbox"/> 040S02.dat
<input type="checkbox"/> 041S02.dat
<input type="checkbox"/> 042L01.dat
<input type="checkbox"/> 043L01.dat
<input type="checkbox"/> 044S02.dat
<input type="checkbox"/> 045S01.dat
<input type="checkbox"/> 046S01.dat
<input type="checkbox"/> 047S01.dat
<input type="checkbox"/> 048S01.dat
<input type="checkbox"/> 049S01.dat
<input type="checkbox"/> 050S01.dat
<input type="checkbox"/> 051S01.dat

	Pre-Names
	053S01.dat
	054S01.dat
	057S01.dat
	058S01.dat
	059S01.dat
	060S01.dat
	061S01.dat
	062S01.dat
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	100S01.dat
	101S01.dat
	102S01.dat
	103S01.dat
	104S01.dat
	P01S01.dat
	ex_read2.f (Sample Program)

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

Observation	Time and Date	Lat. [°]	Lon. [°]
039S01	2000-07-12 07:46	32.5848	152.5016
040S02	2000-07-12 20:05	30.0011	152.5033
041S02	2000-07-13 01:52	30.1675	152.5020
042L01	2000-07-13 08:55	30.3316	152.4986
043L01	2000-07-13 14:09	30.4976	152.4976
044S02	2000-07-14 00:53	30.6681	152.4973
045S01	2000-07-14 06:06	30.8325	152.4990
046S01	2000-07-14 11:19	31.0020	152.5004
047S01	2000-07-14 16:05	31.1685	152.4983
048S01	2000-07-14 21:07	31.3336	152.4996
049S01	2000-07-15 01:49	31.5013	152.5000
050S01	2000-07-15 06:51	31.6670	152.4990
051S01	2000-07-15 11:56	31.8340	152.5003
052S01	2000-07-15 17:12	31.9998	152.4993
053S01	2000-07-15 22:12	32.1644	152.4976
054S01	2000-07-16 03:01	32.3311	152.4986
057S01	2000-07-17 17:48	32.4996	152.5004
058S01	2000-07-17 23:55	32.6641	152.4986
059S01	2000-07-18 06:02	32.8263	152.4963
060S01	2000-07-18 11:59	32.9993	152.5023
061S01	2000-07-18 18:04	33.1693	152.5004
062S01	2000-07-19 00:27	33.3331	152.5006
063S01	2000-07-19 06:29	33.5003	152.5008
064S01	2000-07-19 13:52	33.6668	152.5085
065S01	2000-07-19 20:02	33.8353	152.5003
066S01	2000-07-20 00:57	33.9995	152.5058
067S01	2000-07-20 06:21	34.1668	152.5029
068S01	2000-07-20 13:02	34.3341	152.5061

Observation	Time and Date	Lat (°N)	Lon (°E)
070S01	2000-07-21 06:06	34.6696	152.5011
071S01	2000-07-21 10:31	34.8293	152.5040
072S01	2000-07-21 15:38	35.0038	152.4993
073S01	2000-07-21 20:56	35.1688	152.4983
074S01	2000-07-22 01:52	35.3395	152.5016
075S01	2000-07-22 07:00	35.5005	152.5006
076S01	2000-07-22 11:26	35.6780	152.5029
077S01	2000-07-22 15:59	35.8396	152.4995
078S01	2000-07-22 20:29	35.9993	152.5011
079S01	2000-07-23 00:49	36.1659	152.5051
080S01	2000-07-23 05:04	36.3361	152.5025
081S01	2000-07-23 09:12	36.4983	152.4981
082S01	2000-07-23 13:27	36.6646	152.5031
083S01	2000-07-23 17:49	36.8311	152.5020
084S01	2000-07-23 22:10	36.9948	152.5004
085S01	2000-07-24 02:13	37.1641	152.5018
086S01	2000-07-24 06:51	37.3270	152.5020
087S01	2000-07-24 10:58	37.4831	152.5038
088S01	2000-07-24 15:23	37.6636	152.5004
089S01	2000-07-24 19:17	37.8291	152.5000
090S01	2000-07-24 23:11	37.9898	152.5029
091S01	2000-07-25 04:02	38.1376	152.5028
092S01	2000-07-25 08:37	38.3241	152.4993
095S01	2000-07-27 17:49	38.5010	152.4985
096S01	2000-07-27 21:52	38.6531	152.4935
097S01	2000-07-28 02:31	38.8320	152.4991
098S01	2000-07-28 06:17	38.9951	152.4973
099S01	2000-07-28 10:08	39.1661	152.5006
100S01	2000-07-28 14:25	39.3270	152.5033
101S01	2000-07-28 18:17	39.4951	152.5015
102S01	2000-07-28 22:07	39.6476	152.4996
103S01	2000-07-29 02:13	39.8325	152.4991
104S01	2000-07-29 05:58	39.9966	152.5016
P01S01	2000-07-11 06:57	34.5010	147.4998

Related Information



MR00-K05 Cruise Track

MR00-K05
Ship Name: MIRAI
Period: 2000-07-09 - 2000-08-01
Chief Scientist: Yasushi Yoshikawa (JAMSTEC)

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Update History

2017-06-22	An observation data was registerd.
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[Data Policy](#)

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[Update History](#)
[Feeds](#)

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[Publication List](#)
[Amount of Public Info.](#)

Data

[Map Search](#)
[Data Tree](#)
[Detailed Search](#)

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[KAIKO](#)
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[DEEP TOW](#)
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