MIRAI MR00-K01 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

ReadMe | Observation Data | Data Format

Cruise ID: MR00-K01
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/MR00-K01_all.pdf

For Using Data

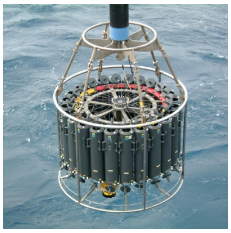
Principal Investigator
Data Management Office

Use Constraints
See Terms and Conditions about constrain of use.

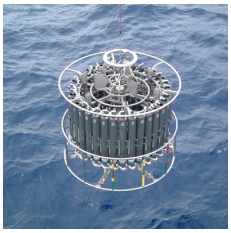
Data Citation
See Terms and Conditions about data citation.

Instrument

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

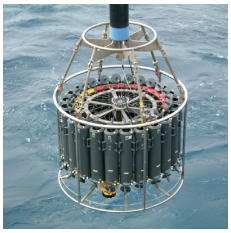


Instrument:
Water sampling system with CTD (12 litters * 36 bottles)



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 MR00-K01 cruise are presented in “System”.
The following software, developed and supplied by the Sea-Bird Electronics, Inc., was used in MR00-K01.
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 : 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 : 031524
  Measurement range : -5.0 to +35degC
  Accuracy : 0.001degC

Resolution : 0.0002degC

• Temperature sensor
Model : SBE3, Sea-Bird Electronics,Inc.
Serial number : 032453
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

• Salinity sensor
Model : SBE4, Sea-Bird Electronics,Inc.
Serial number : 042240
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
0001L01	51190	031524	041202	130540
0001L02	51190	031524	041202	130540
0001S01	79492	032453	042240	-
0001S02	79492	032453	042240	-
0021S01	79492	032453	042240	-
0021S02	79492	032453	042240	-
0021L01	51190	031524	041202	130540
0020S01	79492	032453	042240	-
0020L01	51190	031524	041202	130540
0020S02	79492	032453	042240	-
0020S03	79492	032453	042240	-
0019S01	79492	032453	042240	-
0019L01	51190	031524	041202	130540
0019S02	79492	032453	042240	-
0018S01	79492	032453	042240	-
0018L01	51190	031524	041202	130540
0018S02	79492	032453	042240	-
0002L01	51190	031524	041202	130540
0002S01	79492	032453	042240	-
0002L02	51190	031524	041202	130540
0002S02	79492	032453	042240	-
0004L01	51190	031524	041202	130540
0004S01	79492	032453	042240	-
0004S02	79492	032453	042240	-
0004S03	79492	032453	042240	-
0004L03	51190	031524	041202	130540
0004S04	79492	032453	042240	-
0004L04	51190	031524	041202	130540
0004L05	51190	031524	041202	130540
0016S01	79492	032453	042240	-
0016L01	51190	031524	041202	130540
0016S02	79492	032453	042240	-
0017S01	79492	032453	042240	-
0014S01	79492	032453	042240	-
0014S02	79492	032453	042240	-
0014S03	79492	032453	042240	-
0014S04	79492	032453	042240	-
0014S05	79492	032453	042240	-
0014L01	51190	031524	041202	130540
0014L02	51190	031524	041202	130540
0006L01	51190	031524	041202	130540
0006S01	79492	032453	042240	-
0006L02	51190	031524	041202	130540
0006S02	79492	032453	042240	-
0006S03	79492	032453	042240	-
0006S04	79492	032453	042240	-
0006L03	51190	031524	041202	130540
0006S06	79492	032453	042240	-
0007S01	79492	032453	042240	-
0007S02	79492	032453	042240	-
0007S03	79492	032453	042240	-
0007L01	51190	031524	041202	130540

Cast name	Serial number of sensor			
	Pressure	Temperature	Salinity	Dissolved Oxygen
0007L01	51190	031524	041202	130540
0007L02	51190	031524	041202	130540
0007L03	51190	031524	041202	130540
0008S01	79492	032453	042240	-
0008L01	51190	031524	041202	130540
0008S02	79492	032453	042240	-
0008S03	79492	032453	042240	-
0008L02	51190	031524	041202	130540
0008S04	79492	032453	042240	-
0008L03	51190	031524	041202	130540
0008S05	79492	032453	042240	-
0015S01	79492	032453	042240	-
0015L01	51190	031524	041202	130540
0015S02	79492	032453	042240	-
0015L02	51190	031524	041202	130540
0015L03	51190	031524	041202	130540
0015S03	79492	032453	042240	-
0003S01	79492	032453	042240	-

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.
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.

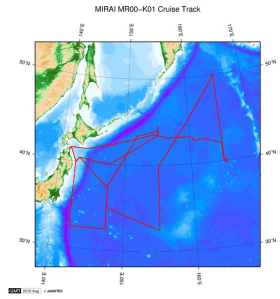
QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA

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

Note

(1) Water temperature data of this cruise was corrected since it had pressure dependency. Please refer to **"data correction"** in detail.

Related Information



Enlarge Image

MR00-K01
Ship Name: MIRAI
Period: 2000-01-05 - 2000-02-06
Chief Scientist: Makio Honda (JAMSTEC)
Project Name: [Station KEO,Station KNOT]

Update History

2017-06-22	An observation data was registerd.
2014-08-16	An observation data was registerd.
2014-07-12	An observation data was registerd.
2014-01-11	An observation data was registerd.
2013-03-26	An observation data was registerd.
2012-12-25	An observation data was registerd.

MIRAI MR00-K01 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

ReadMe | Observation Data | Data Format

Cruise ID: MR00-K01

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	MRYY-(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

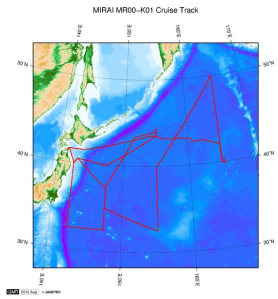
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

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

Sample Program

ex_read2.f

Related Information



Enlarge Image

MR00-K01
Ship Name: MIRAI
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Chief Scientist: Makio Honda (JAMSTEC)
Project Name: [Station KEO,Station KNOT]

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MIRAI MR00-K01 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

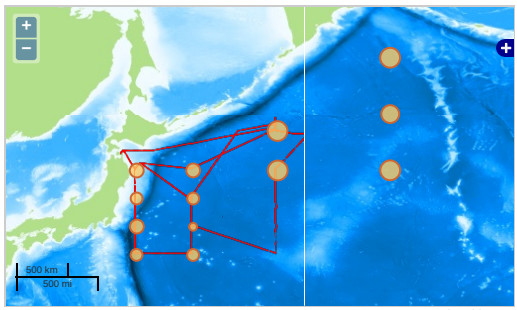
ReadMe | Observation Data | Data Format

Cruise ID: MR00-K01
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

Observation Map

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

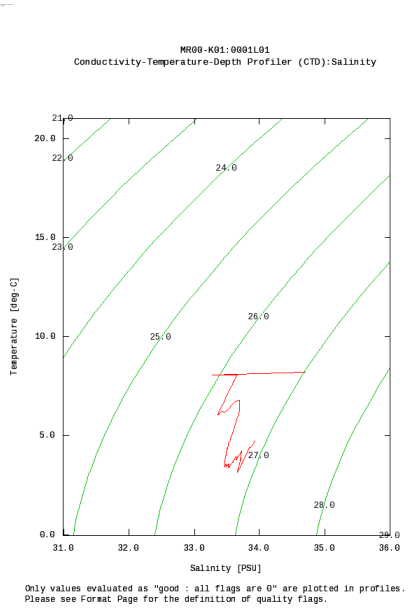


Imagery reproduced from ...

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

Figures

0001L01



Data List

Add to Basket

File names
0001L01.dat
0001L02.dat
0001S01.dat
0001S02.dat
0002L01.dat
0002L02.dat
0002S01.dat
0002S02.dat
0003S01.dat
0004L01.dat
0004L03.dat
0004L04.dat
0004L05.dat

File names
0004S01.dat
0004S02.dat
0004S03.dat
0004S04.dat
0006L01.dat
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0006S01.dat
0006S02.dat
0006S03.dat
0006S04.dat
0006S06.dat
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0008S05.dat
0014L01.dat
0014L02.dat
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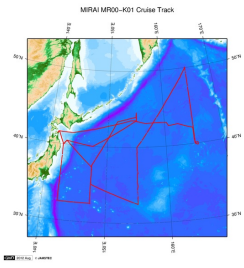
0019S01.dat
0019S02.dat
0020L01.dat
0020S01.dat
0020S02.dat
0020S03.dat
0021L01.dat
0021S01.dat
0021S02.dat
ex_read2.f (Sample Program)

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

Observation	Time and Date	Lat. [°]	Lon. [°]
0001L01	2000-01-06 08:51	39.9936	142.5011
0001L02	2000-01-06 10:12	39.9843	142.5008
0001S01	2000-01-07 00:59	40.0021	142.4988
0001S02	2000-01-07 02:20	39.9818	142.4886
0002L01	2000-01-13 01:09	40.0031	147.5093
0002L02	2000-01-13 02:47	40.0136	147.5223
0002S01	2000-01-13 02:08	40.0071	147.5170
0002S02	2000-01-13 05:31	40.0188	147.5496
0003S01	2000-02-04 11:15	43.5003	155.0015
0004L01	2000-01-16 00:38	43.9976	155.0360
0004L03	2000-01-16 22:39	44.0013	154.9901
0004L04	2000-01-17 06:07	44.0155	154.9788
0004L05	2000-01-17 12:02	43.9940	154.9495
0004S01	2000-01-16 02:23	44.0103	155.0453
0004S02	2000-01-16 03:30	44.0000	155.0011
0004S03	2000-01-16 17:52	44.0000	155.0010
0004S04	2000-01-17 00:13	44.0006	154.9745
0006L01	2000-01-25 22:26	50.0088	164.9968
0006L02	2000-01-26 00:10	50.0155	164.9993
0006L03	2000-01-26 10:55	50.0243	164.9958
0006S01	2000-01-25 23:26	50.0168	165.0071
0006S02	2000-01-26 04:32	50.0334	165.0120

Observation	Time and Date	Lat [°]	Lon [°]
0006S04	2000-01-26 10:21	50.0220	165.0008
0006S06	2000-01-26 17:50	50.0001	165.0016
0007L01	2000-01-28 02:52	45.0058	165.0103
0007L02	2000-01-28 07:21	44.9973	165.0011
0007L03	2000-01-28 08:37	44.9945	165.0066
0007S01	2000-01-27 22:52	45.0008	165.0018
0007S02	2000-01-27 23:43	44.9973	164.9971
0007S03	2000-01-28 00:49	45.0043	165.0070
0008L01	2000-01-29 05:57	40.0136	165.0033
0008L02	2000-01-30 02:53	40.0043	165.0063
0008L03	2000-01-30 04:15	40.0031	164.9983
0008S01	2000-01-29 05:30	40.0080	165.0048
0008S02	2000-01-29 09:44	40.0165	165.0280
0008S03	2000-01-30 02:25	40.0066	165.0111
0008S04	2000-01-30 03:50	40.0063	165.0008
0008S05	2000-01-30 17:49	39.9990	165.0010
0014L01	2000-01-23 10:52	39.9995	155.0186
0014L02	2000-01-23 12:05	39.9971	155.0065
0014S01	2000-01-23 00:52	40.0001	154.9956
0014S02	2000-01-23 03:57	39.9730	154.9993
0014S03	2000-01-23 05:07	39.9791	155.0089
0014S04	2000-01-23 06:39	39.9823	155.0146
0014S05	2000-01-23 09:54	39.9981	155.0170
0015L01	2000-02-03 22:56	43.9946	154.9871
0015L02	2000-02-04 00:56	43.9958	154.9686
0015L03	2000-02-04 05:01	44.0008	154.9990
0015S01	2000-02-03 21:13	43.9996	154.9990
0015S02	2000-02-04 00:28	43.9971	154.9746
0015S03	2000-02-04 08:40	44.0041	155.0006
0016L01	2000-01-19 12:17	37.5073	147.5093
0016S01	2000-01-19 11:36	37.5013	147.5008
0016S02	2000-01-19 15:15	37.5158	147.5451
0017S01	2000-01-20 06:22	35.0020	147.5020
0018L01	2000-01-10 02:23	32.4970	147.5004
0018S01	2000-01-10 01:40	32.5001	147.4903
0018S02	2000-01-10 05:39	32.4745	147.5471
0019L01	2000-01-09 00:24	32.5051	142.4848
0019S01	2000-01-08 22:56	32.5038	142.4928
0019S02	2000-01-09 04:28	32.5213	142.4893
0020L01	2000-01-08 06:30	35.0215	142.5128
0020S01	2000-01-08 05:39	35.0071	142.5043
0020S02	2000-01-08 08:18	35.0378	142.5290
0020S03	2000-01-08 11:52	35.0454	142.5238
0021L01	2000-01-07 15:39	37.5140	142.4921
0021S01	2000-01-07 13:18	37.5070	142.4995
0021S02	2000-01-07 14:28	37.5130	142.4985

Related Information



Enlarge Image

MR00-K01
Ship Name: MIRAI
Period: 2000-01-05 - 2000-02-06
Chief Scientist: Makio Honda (JAMSTEC)
Project Name: [Station KEO,Station KNOT]

Update History

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