MIRAI MR01-K01 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

ReadMe Observation Data Data Format

Cruise ID: MR01-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/MR01-K01_all.pdf

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ⓘ **For Using Data**

Principal Investigator
Data Management Office

Use Constraints
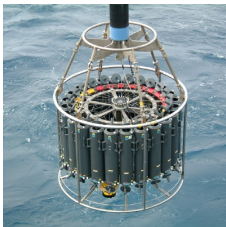See **Terms and Conditions** about constrain of use.

Data Citation
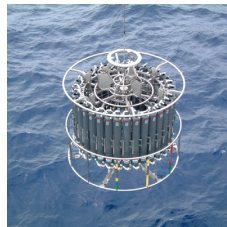See **Terms and Conditions** about data citation.

Instrument

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

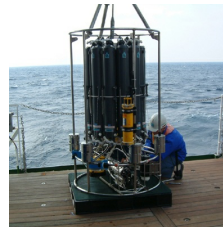Instrument:
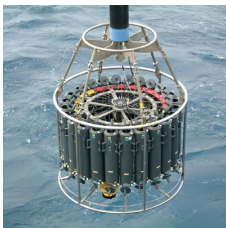Water sampling system with CTD (12 litters * 36 bottles)

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 MR01-K01 cruise are presented in "System".
The following software, developed and supplied by the Sea-Bird Electronics, Inc., was used in MR01-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 : 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 : 031464
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

Sensors used in each cast is as follows.

Cast name	Serial number of sensor			
	Pressure	Temperature	Salinity	Dissolved Oxygen
C01S01	79492	031464	041202	-
C02S01	79492	031464	041202	-
C03S01	79492	031464	041202	-
C04S01	79492	031464	041202	-
C05S01	79492	031464	041202	-
C06S01	79492	031464	041202	-
C07S01	79492	031464	041202	-
C08S01	79492	031464	041202	-
C09S01	79492	031464	041202	-
C10S01	79492	031464	041202	-
C11S01	79492	031464	041202	-
C12S02	79492	031464	041202	-
C13S01	79492	031464	041202	-
C14S01	79492	031464	041202	-

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.

Related Information
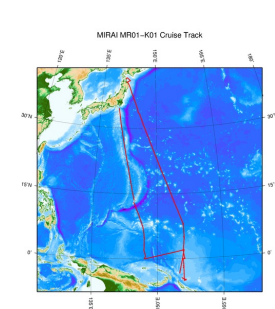
MIRAI MR01-K01 Cruise Track

MR01-K01
Ship Name: MIRAI
Period: 2001-02-14 - 2001-03-22
Chief Scientist: Kentaro Ando (JAMSTEC)
Project Name: [Tropical Ocean Climate Study (TOCS)]

🔍 **Enlarge Image**

Update History

2017-06-22	An observation data was registerd.
2014-08-20	An observation data was registerd.
2014-07-16	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.

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

Go to a Dive Information
Dive ID: [----▼] [＿＿＿＿] Go

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海洋研究開発機構
JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

MIRAI MR01-K01 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

ReadMe **Observation Data** **Data Format**

Cruise ID: MR01-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
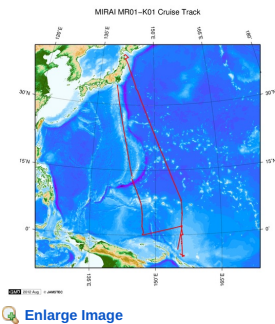   A - failed visual check

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

MIRAI MR01-K01 Cruise Track

Enlarge Image

MR01-K01
Ship Name: MIRAI
Period: 2001-02-14 - 2001-03-22
Chief Scientist: Kentaro Ando (JAMSTEC)
Project Name: [Tropical Ocean Climate Study (TOCS)]

Update History

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DARWIN+
Data and Sample Research System
for Whole Cruise Information in JAMSTEC

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MIRAI MR01-K01 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

| ReadMe | Observation Data | Data Format |

Cruise ID: **MR01-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 ...
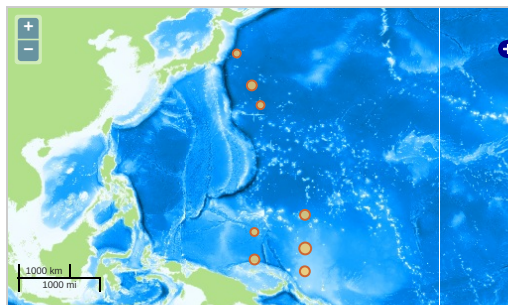
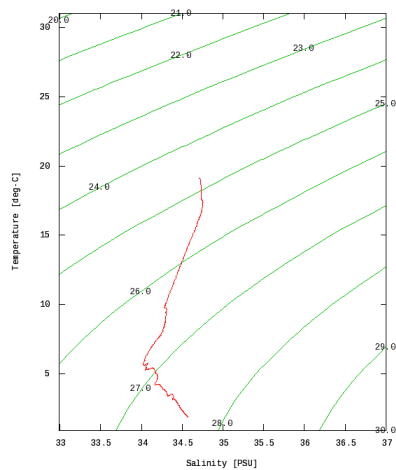▬▬ ... Observation Line   ▬▬ ... Navigation   ◯ ... Observation, Dive Point, Hole

Figures

C01S01

MR01-K01: C01S01
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

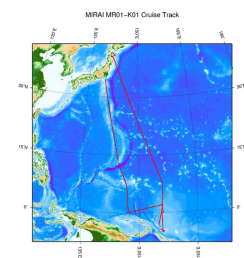|	File names
☐	C01S01.dat
☐	C02S01.dat
☐	C03S01.dat
☐	C04S01.dat
☐	C05S01.dat
☐	C06S01.dat
☐	C07S01.dat
☐	C08S01.dat
☐	C09S01.dat
☐	C10S01.dat
☐	C11S01.dat
☐	C12S02.dat
☐	C13S01.dat

File Names

☐ ~~C14S01.dat~~
☐ ex_read2.f (Sample Program)

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

Observation	Time and Date	Lat. [°]	Lon. [°]
C01S01	2001-02-16 00:18	36.6693	143.8653
C02S01	2001-02-17 03:18	31.0040	146.5313
C03S01	2001-02-17 14:21	29.0046	147.4166
C04S01	2001-02-17 22:50	27.5020	148.0853
C05S01	2001-02-22 03:52	8.0193	155.9795
C06S01	2001-02-24 07:54	4.9920	156.0176
C07S01	2001-02-26 03:30	2.0546	156.0178
C08S01	2001-02-26 05:05	1.9596	155.8660
C09S01	2001-03-02 03:40	0.0020	155.9548
C10S01	2001-03-05 03:24	-2.0038	155.9521
C11S01	2001-03-07 01:22	-5.0011	156.0228
C12S02	2001-03-13 00:50	0.0960	147.0193
C13S01	2001-03-14 03:28	2.1158	146.9358
C14S01	2001-03-15 03:28	4.9755	146.9935

Related Information

MIRAI MR01-K01 Cruise Track

🔍 **Enlarge Image**

MR01-K01
Ship Name: MIRAI
Period: 2001-02-14 - 2001-03-22
Chief Scientist: Kentaro Ando (JAMSTEC)
Project Name: [Tropical Ocean Climate Study (TOCS)]

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