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Data and Sample Research System
for Whole Cruise Information in JAMSTEC

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MIRAI MR14-06 Leg3 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

ReadMe | Observation Data | Data Format

Cruise ID: **MR14-06 Leg3**
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/MR14-06_leg3_all.pdf

> ⓘ **For Using Data**
>
> **Principal Investigator**
>   Data Management Office
>
> **Use Constraints**
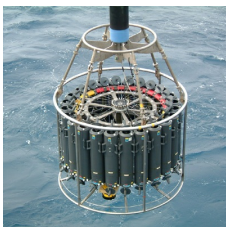>   See **Terms and Conditions** about constrain of use.
>
> **Data Citation**
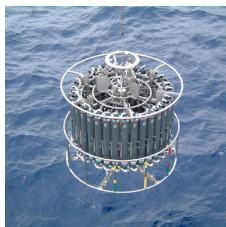>   See **Terms and Conditions** about data citation.

Instrument

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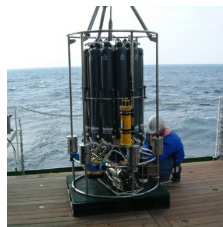Water sampling system with CTD (30 litters * 24 bottles)

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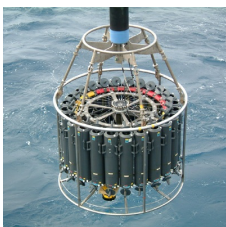Water sampling system with CTD (12 litters * 36 bottles)

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 MR14-06_leg3 cruise are presented in "System".

The following software, developed and supplied by the Sea-Bird Electronics, Inc., was used in MR14-06_leg3.

SEASAVE(ver 7.23.2) for data acquisition
SEASOFT(ver 7.23.2) for data processing

Data presented on this website is averaged over 1db.

System
・Pressure sensor
  Model : SBE9plus, Sea-Bird Electronics,Inc.
  Serial number : 94766
  Measurement range : up to 6800m
  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 : 432471

    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
C11M01	94766	031359	041203	432471
C12M01	94766	031359	041203	432471
C13M01	94766	031359	041203	432471
C14M01	94766	031359	041203	432471
C15M01	94766	031359	041203	432471
C16M01	94766	031359	041203	432471
C17M01	94766	031359	041203	432471
C18M01	94766	031359	041203	432471
J04M01	94766	031359	041203	432471

Calibration Information

Calibration Information is as follows.

    Calibration Information

Data processing

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

"*" is not SEASOFT original procedure.

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.
sectionu*	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.
bottomcut*	Bottom cut deletes discontinuous scan bottom data if it's created by BINAVG.
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.
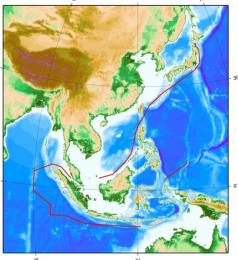
    QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA

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) 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

MIRAI MR14-06 Leg3 Cruise Track

Enlarge Image

MR14-06 Leg3
Ship Name: MIRAI
Period: 2015-01-22 - 2015-02-25
Chief Scientist: Iwao Ueki (JAMSTEC)
Proposal ▶ Study of structure and formation process of the Ontong Java Plateau
Title:

Update History

2017-06-22	An observation data was registerd.
2017-03-31	An observation data was registerd.

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Privacy Policy
Application for Data and Samples
Data Policy

What's New

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

Information of the Submersibles
KAIKO
SHINKAI 2000
SHINKAI 6500
DEEP TOW
HYPER-DOLPHIN
URASHIMA

Go to a Cruise Information
Cruise ID: Go

Go to a Dive Information
Dive ID: ---- Go

SHINSEI MARU
HAKUHO MARU

YOKOSUKA DEEP TOW
6K Camera DEEP TOW
6K Sonar DEEP TOW
KM-ROV
POWER GRAB SAMPLER
(SHELL)
POWER GRAB SAMPLER
(CLOW)
BMS

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 MR14-06 Leg3 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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

Cruise ID: **MR14-06 Leg3**
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
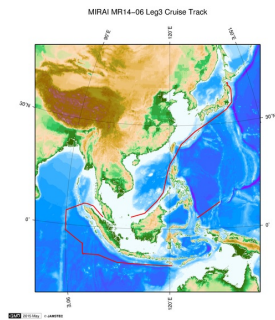   A - failed visual check

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 MR14–06 Leg3 Cruise Track

MR14-06 Leg3
Ship Name: MIRAI
Period: 2015-01-22 - 2015-02-25
Chief Scientist: Iwao Ueki (JAMSTEC)
Proposal ▶ Study of structure and formation process of the Ontong Java Plateau
Title:

Enlarge Image

Update History

2017-06-22	An observation data was registerd.
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DARWIN

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for **Whole** Cruise **In**formation in JAMSTEC

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

Observation Map

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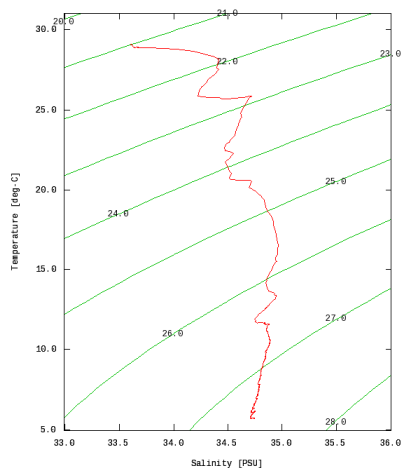2. Then click the observation name, figures will be displayed.

Imagery reproduced from ...

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

Figures

C11M01

MR14-06 Leg3: C11M01
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.
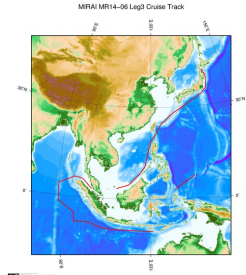
Data List

Add to Basket

	File names
☐	C11M01.dat
☐	C12M01.dat
☐	C13M01.dat
☐	C14M01.dat
☐	C15M01.dat
☐	C16M01.dat
☐	C17M01.dat
☐	C18M01.dat
☐	J04M01.dat
☐	ex_read2.f (Sample Program)

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

Observation	Time and Date	Lat. [°]	Lon. [°]

Observation	Time and Date	Lat. [°]	Lon. [°]
C11M01	2015-01-30 09:09	-8.0058	89.5260
C12M01	2015-02-01 07:31	-8.0888	95.1555
C13M01	2015-02-01 09:35	-8.0091	95.0916
C14M01	2015-02-03 07:08	-5.0373	95.0173
C15M01	2015-02-03 08:54	-4.9615	95.0296
C16M01	2015-02-07 06:55	-1.6190	89.9485
C17M01	2015-02-08 09:24	0.0071	90.1496
C18M01	2015-02-08 17:16	1.4836	89.9986
J04M01	2015-02-06 06:55	-1.6230	89.9855

Related Information

MIRAI MR14-06 Leg3 Cruise Track

Enlarge Image

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