

MIRAI MR10-03 Leg2 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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Cruise ID: [MR10-03 Leg2](#)

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/MR10-03_leg1-2_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 MR10-03 Leg2 cruise are presented in "System".

The following software, developed and supplied by the Sea-Bird Electronics, Inc., was used in MR10-03 Leg2.

SEASAVE(ver 7.20c) for data acquisition

SEASOFT(ver 7.18d) for data processing

Data presented on this website is averaged over 1db.

System

• 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 : 032730

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 : 430949

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
07M001	42423	032730	041203	430949
08M001	42423	032730	041203	430949
09M001	42423	032730	041203	430949
09M002	42423	032730	041203	430949
09M003	42423	032730	041203	430949
09M004	42423	032730	041203	430949
09M005	42423	032730	041203	430949
09M006	42423	032730	041203	430949
09M007	42423	032730	041203	430949
09M008	42423	032730	041203	430949
09M009	42423	032730	041203	430949
09M010	42423	032730	041203	430949
09M011	42423	032730	041203	430949
09M012	42423	032730	041203	430949
09M013	42423	032730	041203	430949
09M014	42423	032730	041203	430949
09M015	42423	032730	041203	430949
09M016	42423	032730	041203	430949
09M017	42423	032730	041203	430949
09M018	42423	032730	041203	430949
09M019	42423	032730	041203	430949
09M020	42423	032730	041203	430949
09M021	42423	032730	041203	430949
09M022	42423	032730	041203	430949
09M023	42423	032730	041203	430949
09M024	42423	032730	041203	430949
09M025	42423	032730	041203	430949
09M026	42423	032730	041203	430949
09M027	42423	032730	041203	430949
09M028	42423	032730	041203	430949
09M029	42423	032730	041203	430949
09M030	42423	032730	041203	430949
09M031	42423	032730	041203	430949
09M032	42423	032730	041203	430949
09M033	42423	032730	041203	430949
09M034	42423	032730	041203	430949
09M035	42423	032730	041203	430949
09M036	42423	032730	041203	430949
09M037	42423	032730	041203	430949
09M038	42423	032730	041203	430949
09M039	42423	032730	041203	430949
09M040	42423	032730	041203	430949
09M041	42423	032730	041203	430949
09M042	42423	032730	041203	430949
09M043	42423	032730	041203	430949
09M044	42423	032730	041203	430949
09M045	42423	032730	041203	430949
09M046	42423	032730	041203	430949
09M047	42423	032730	041203	430949
09M048	42423	032730	041203	430949
09M049	42423	032730	041203	430949
09M050	42423	032730	041203	430949
09M051	42423	032730	041203	430949
09M052	42423	032730	041203	430949
09M053	42423	032730	041203	430949
09M054	42423	032730	041203	430949
09M055	42423	032730	041203	430949
09M056	42423	032730	041203	430949
09M057	42423	032730	041203	430949
09M058	42423	032730	041203	430949
09M059	42423	032730	041203	430949
09M060	42423	032730	041203	430949
09M061	42423	032730	041203	430949
09M062	42423	032730	041203	430949
09M063	42423	032730	041203	430949
09M064	42423	032730	041203	430949
09M065	42423	032730	041203	430949
09M066	42423	032730	041203	430949

09M067	42423	032730	041203	430949
Cast name	Serial number of sensor	Pressure	Temperature	Salinity
09M068	42423	032730	041203	430949
09M069	42423	032730	041203	430949
09M070	42423	032730	041203	430949
09M071	42423	032730	041203	430949
09M072	42423	032730	041203	430949
09M073	42423	032730	041203	430949
09M074	42423	032730	041203	430949
09M075	42423	032730	041203	430949
09M076	42423	032730	041203	430949
09M077	42423	032730	041203	430949
09M078	42423	032730	041203	430949
09M079	42423	032730	041203	430949
09M080	42423	032730	041203	430949
09M081	42423	032730	041203	430949
09M082	42423	032730	041203	430949
09M083	42423	032730	041203	430949
09M084	42423	032730	041203	430949
09M085	42423	032730	041203	430949
09M086	42423	032730	041203	430949
09M087	42423	032730	041203	430949
09M088	42423	032730	041203	430949
09M089	42423	032730	041203	430949
09M090	42423	032730	041203	430949
09M091	42423	032730	041203	430949
09M092	42423	032730	041203	430949
09M093	42423	032730	041203	430949
09M094	42423	032730	041203	430949
09M095	42423	032730	041203	430949
09M096	42423	032730	041203	430949
09M097	42423	032730	041203	430949
09M098	42423	032730	041203	430949
09M099	42423	032730	041203	430949
09M100	42423	032730	041203	430949
09M101	42423	032730	041203	430949
09M102	42423	032730	041203	430949
09M103	42423	032730	041203	430949
09M104	42423	032730	041203	430949
09M105	42423	032730	041203	430949
09M106	42423	032730	041203	430949
09M107	42423	032730	041203	430949
09M108	42423	032730	041203	430949
09M109	42423	032730	041203	430949
09M110	42423	032730	041203	430949
09M111	42423	032730	041203	430949
09M112	42423	032730	041203	430949
09M113	42423	032730	041203	430949
09M114	42423	032730	041203	430949
09M115	42423	032730	041203	430949
09M116	42423	032730	041203	430949
09M117	42423	032730	041203	430949
09M118	42423	032730	041203	430949
09M119	42423	032730	041203	430949
09M120	42423	032730	041203	430949
09M121	42423	032730	041203	430949
09M122	42423	032730	041203	430949
09M123	42423	032730	041203	430949
09M124	42423	032730	041203	430949
09M125	42423	032730	041203	430949
09M126	42423	032730	041203	430949
09M127	42423	032730	041203	430949
09M128	42423	032730	041203	430949
09M129	42423	032730	041203	430949
09M130	42423	032730	041203	430949
09M131	42423	032730	041203	430949
09M132	42423	032730	041203	430949
09M133	42423	032730	041203	430949
09M134	42423	032730	041203	430949
09M135	42423	032730	041203	430949
09M136	42423	032730	041203	430949

09M144	42423	032730	041203	430949
Cast name	Pressure	Temperature	Salinity	Dissolved Oxygen
09M145	42423	032730	041203	430949
09M146	42423	032730	041203	430949
09M147	42423	032730	041203	430949
09M148	42423	032730	041203	430949
09M149	42423	032730	041203	430949
09M150	42423	032730	041203	430949
09M151	42423	032730	041203	430949
09M152	42423	032730	041203	430949
09M153	42423	032730	041203	430949
09M154	42423	032730	041203	430949
09M155	42423	032730	041203	430949
09M156	42423	032730	041203	430949
09M157	42423	032730	041203	430949
09M158	42423	032730	041203	430949
09M159	42423	032730	041203	430949
09M160	42423	032730	041203	430949
09M161	42423	032730	041203	430949
09M162	42423	032730	041203	430949
09M163	42423	032730	041203	430949
09M164	42423	032730	041203	430949
09M165	42423	032730	041203	430949
09M166	42423	032730	041203	430949
09M167	42423	032730	041203	430949
09M168	42423	032730	041203	430949
09M169	42423	032730	041203	430949
09M170	42423	032730	041203	430949
09M171	42423	032730	041203	430949
09M172	42423	032730	041203	430949
09M173	42423	032730	041203	430949
09M174	42423	032730	041203	430949
09M175	42423	032730	041203	430949
09M176	42423	032730	041203	430949
09M177	42423	032730	041203	430949
09M178	42423	032730	041203	430949
09M179	42423	032730	041203	430949
09M180	42423	032730	041203	430949
09M181	42423	032730	041203	430949
09M182	42423	032730	041203	430949
09M183	42423	032730	041203	430949
09M184	42423	032730	041203	430949
09M185	42423	032730	041203	430949
09M186	42423	032730	041203	430949
09M187	42423	032730	041203	430949
09M188	42423	032730	041203	430949
09M189	42423	032730	041203	430949
09M190	42423	032730	041203	430949
09M191	42423	032730	041203	430949
09M192	42423	032730	041203	430949
09M193	42423	032730	041203	430949
09M194	42423	032730	041203	430949
09M195	42423	032730	041203	430949
09M196	42423	032730	041203	430949
09M197	42423	032730	041203	430949
09M198	42423	032730	041203	430949
09M199	42423	032730	041203	430949
09M200	42423	032730	041203	430949
09M201	42423	032730	041203	430949
09M202	42423	032730	041203	430949
09M203	42423	032730	041203	430949
09M204	42423	032730	041203	430949
09M205	42423	032730	041203	430949
09M206	42423	032730	041203	430949
09M207	42423	032730	041203	430949
09M208	42423	032730	041203	430949
09M209	42423	032730	041203	430949
09M210	42423	032730	041203	430949
09M211	42423	032730	041203	430949
09M212	42423	032730	041203	430949
09M213	42423	032730	041203	430949</

09M221	Cast name	Serial number of sensor		041203	430949
09M222		Pressure	Temperature	Salinity	Dissolved Oxygen
09M223		42423	032730	041203	430949
09M224		42423	032730	041203	430949
09M225		42423	032730	041203	430949
09M226		42423	032730	041203	430949
09M227		42423	032730	041203	430949
09M228		42423	032730	041203	430949
09M229		42423	032730	041203	430949
09M230		42423	032730	041203	430949
09M231		42423	032730	041203	430949
09M232		42423	032730	041203	430949
09M233		42423	032730	041203	430949
09M234		42423	032730	041203	430949
09M235		42423	032730	041203	430949
09M236		42423	032730	041203	430949
09M237		42423	032730	041203	430949
09M238		42423	032730	041203	430949
09M239		42423	032730	041203	430949
09M240		42423	032730	041203	430949
09M241		42423	032730	041203	430949
09M242		42423	032730	041203	430949
09M243		42423	032730	041203	430949
09M244		42423	032730	041203	430949
09M245		42423	032730	041203	430949
09M246		42423	032730	041203	430949
09M247		42423	032730	041203	430949
09M248		42423	032730	041203	430949
09M249		42423	032730	041203	430949
09M250		42423	032730	041203	430949
09M251		42423	032730	041203	430949
09M252		42423	032730	041203	430949
09M253		42423	032730	041203	430949
09M254		42423	032730	041203	430949
09M255		42423	032730	041203	430949
09M256		42423	032730	041203	430949
09M257		42423	032730	041203	430949
09M258		42423	032730	041203	430949
09M259		42423	032730	041203	430949
09M260		42423	032730	041203	430949
09M261		42423	032730	041203	430949
09M262		42423	032730	041203	430949
09M263		42423	032730	041203	430949
09M264		42423	032730	041203	430949
09M265		42423	032730	041203	430949
09M266		42423	032730	041203	430949
09M267		42423	032730	041203	430949
09M268		42423	032730	041203	430949
09M269		42423	032730	041203	430949
09M270		42423	032730	041203	430949
09M271		42423	032730	041203	430949
09M272		42423	032730	041203	430949
09M273		42423	032730	041203	430949
09M274		42423	032730	041203	430949
09M275		42423	032730	041203	430949
09M276		42423	032730	041203	430949
09M277		42423	032730	041203	430949
09M278		42423	032730	041203	430949
09M279		42423	032730	041203	430949
09M280		42423	032730	041203	430949
09M281		42423	032730	041203	430949
09M282		42423	032730	041203	430949
09M283		42423	032730	041203	430949
09M284		42423	032730	041203	430949
09M285		42423	032730	041203	430949
10M001		42423	032730	041203	430949
11M001		42423	032730	041203	430949
09M286		42423	032730	041203	430949
12M001		42423	032730	041203	430949
13M001		42423	032730	041203	430949
14M001		42423	032730	041203	430949
15M001		42423	032730	041203	430949
09M287		42423	032730	041203	430949
16M001		42423	032730	041203	430949
17M001		42423	032730	041203	430949
18M001		42423	032730	041203	430949

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.
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) 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.

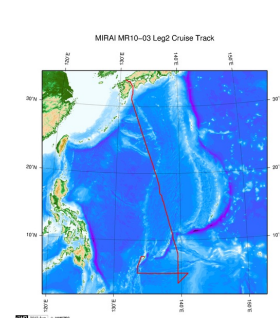
QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA

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, transmittance, 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](#)

MR10-03 Leg2

Ship Name: MIRAI

Period: 2010-05-13 - 2010-06-27

Chief Scientist: Hiroyuki Yamada (JAMSTEC)

Project Name: [MJO Research]

Proposal ▶ Observational Study on Air-Sea Interaction in the Tropical Western Pacific Ocean

Title:

Update History

2017-06-22	An observation data was registerd.
2014-08-08	An observation data was registerd.
2014-02-13	An observation data was registerd.
2013-03-26	An observation data was registerd.
2012-09-28	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 to a Dive Information

Dive ID:

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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 MR10-03 Leg2 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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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

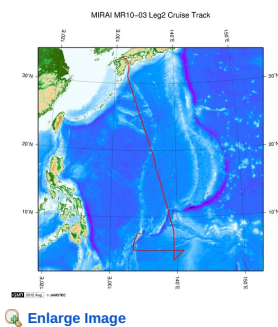
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

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

Sample Program

[ex_read2.f](#)

Related Information



MR10-03 Leg2

Ship Name: MIRAI

Period: 2010-05-13 - 2010-06-27

Chief Scientist: Hiroyuki Yamada (JAMSTEC)

Project Name: [MJO Research]

Proposal ▶ Observational Study on Air-Sea Interaction in the Tropical Western Pacific Ocean

Title:

Update History

2017-06-22	An observation data was registered.
2014-08-08	An observation data was registered.
2014-02-13	An observation data was registered.
2013-03-26	An observation data was registered.
2012-09-28	An observation data was registered.

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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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 MR10-03 Leg2 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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

Cruise ID: [MR10-03 Leg2](#)

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

Data Policy: [JAMSTEC](#)

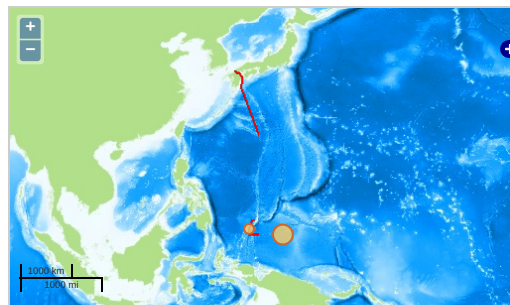
Observation Items: Pressure, Temperature, Salinity, Dissolved oxygen

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

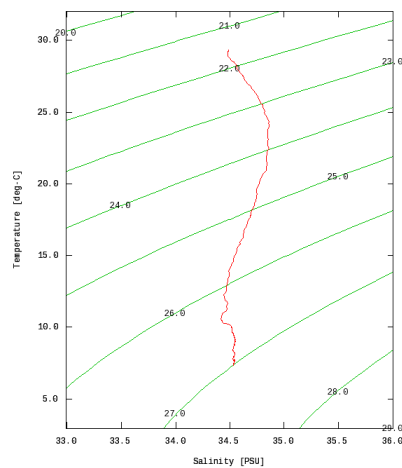
Imagery reproduced from ...

Figures

07M001



MR10-03 Leg2:07M001
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](#)

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ex_read2.f (Sample Program)

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

Observation	Time and Date	Lat. [°]	Lon. [°]
07M001	2010-05-13 22:56	5.9993	133.4993
08M001	2010-05-14 04:44	5.0023	133.4993
09M001	2010-05-15 23:30	4.9983	139.5011
09M002	2010-05-16 02:24	5.0005	139.4983
09M003	2010-05-16 05:28	4.9991	139.4986
09M004	2010-05-16 08:25	4.9985	139.4991
09M005	2010-05-16 11:29	4.9988	139.5000
09M006	2010-05-16 14:27	4.9976	139.5006
09M007	2010-05-16 17:26	4.9991	139.5010
09M008	2010-05-16 20:29	5.0000	139.5016
09M009	2010-05-16 23:27	4.9983	139.4991
09M010	2010-05-17 02:28	4.9983	139.4991
09M011	2010-05-17 05:27	4.9980	139.4981
09M012	2010-05-17 08:27	4.9993	139.4995
09M013	2010-05-17 11:29	4.9961	139.4998
09M014	2010-05-17 14:28	4.9983	139.5016
09M015	2010-05-17 17:28	4.9998	139.5018
09M016	2010-05-17 20:26	5.0006	139.5013
09M017	2010-05-17 23:26	4.9996	139.5021
09M018	2010-05-18 02:27	4.9988	139.5003
09M019	2010-05-18 05:32	4.9978	139.4998
09M020	2010-05-18 08:31	4.9991	139.4995
09M021	2010-05-18 11:35	4.9985	139.4968
09M022	2010-05-18 14:32	4.9985	139.4998
09M023	2010-05-18 17:31	4.9991	139.4998
09M024	2010-05-18 20:31	4.9993	139.5004
09M025	2010-05-18 23:33	5.0001	139.5016
09M026	2010-05-19 02:30	4.9978	139.5006
09M027	2010-05-19 05:31	4.9971	139.4995
09M028	2010-05-19 08:32	4.9983	139.4971
09M029	2010-05-19 11:30	4.9973	139.4981
09M030	2010-05-19 14:32	4.9986	139.4988
09M031	2010-05-19 17:31	4.9995	139.4996
09M032	2010-05-19 20:32	5.0008	139.5015
09M033	2010-05-19 23:26	5.0013	139.5011
09M034	2010-05-20 02:30	4.9986	139.5004
09M035	2010-05-20 05:30	5.0015	139.4981
09M036	2010-05-20 08:30	4.9980	139.4990

09M037 Observation	2010-05-20 11:27 Time and Date	4.9986 Lat. (°)	139.4990 Lon. (°)
09M038	2010-05-20 14:32	4.9993	139.5008
09M039	2010-05-20 17:31	5.0005	139.5013
09M040	2010-05-20 20:31	4.9996	139.5004
09M041	2010-05-20 23:30	4.9990	139.5015
09M042	2010-05-21 02:31	4.9975	139.5001
09M043	2010-05-21 05:30	4.9983	139.4988
09M044	2010-05-21 08:32	4.9976	139.4980
09M045	2010-05-21 11:31	4.9980	139.4985
09M046	2010-05-21 14:30	4.9985	139.4988
09M047	2010-05-21 17:33	4.9993	139.5000
09M048	2010-05-21 20:31	5.0000	139.4988
09M049	2010-05-21 23:32	4.9988	139.4978
09M050	2010-05-22 02:30	5.0015	139.4971
09M051	2010-05-22 05:31	4.9981	139.4983
09M052	2010-05-22 08:33	5.0008	139.4961
09M053	2010-05-22 11:31	4.9995	139.4965
09M054	2010-05-22 14:31	4.9993	139.4988
09M055	2010-05-22 17:31	5.0001	139.5001
09M056	2010-05-22 20:33	4.9991	139.4995
09M057	2010-05-22 23:40	4.9986	139.4995
09M058	2010-05-23 02:31	4.9988	139.5016
09M059	2010-05-23 05:31	4.9993	139.4995
09M060	2010-05-23 08:33	4.9981	139.5010
09M061	2010-05-23 11:30	4.9976	139.4991
09M062	2010-05-23 14:32	5.0000	139.4993
09M063	2010-05-23 17:31	4.9983	139.5000
09M064	2010-05-23 20:33	4.9993	139.5004
09M065	2010-05-23 23:30	4.9996	139.4981
09M066	2010-05-24 02:30	4.9986	139.5003
09M067	2010-05-24 05:31	4.9990	139.5000
09M068	2010-05-24 08:32	4.9986	139.4990
09M069	2010-05-24 11:31	4.9998	139.4995
09M070	2010-05-24 14:32	5.0001	139.4991
09M071	2010-05-24 17:33	4.9995	139.4998
09M072	2010-05-24 20:31	4.9991	139.5013
09M073	2010-05-24 23:30	5.0006	139.5008
09M074	2010-05-25 02:31	4.9998	139.4996
09M075	2010-05-25 05:30	4.9983	139.5003
09M076	2010-05-25 08:34	4.9985	139.4986
09M077	2010-05-25 11:30	4.9981	139.4985
09M078	2010-05-25 14:32	4.9993	139.4983
09M079	2010-05-25 17:33	4.9998	139.4998
09M080	2010-05-25 20:29	4.9991	139.4988
09M081	2010-05-25 23:31	4.9996	139.4961
09M082	2010-05-26 02:28	4.9988	139.4986
09M083	2010-05-26 05:31	4.9983	139.5004
09M084	2010-05-26 08:33	4.9978	139.4996
09M085	2010-05-26 11:31	4.9985	139.4991
09M086	2010-05-26 14:34	4.9980	139.4985
09M087	2010-05-26 17:31	4.9993	139.5010
09M088	2010-05-26 20:31	4.9981	139.5004
09M089	2010-05-26 22:57	4.9993	139.4995
09M090	2010-05-27 02:30	4.9988	139.4995
09M091	2010-05-27 05:31	4.9991	139.5010
09M092	2010-05-27 08:34	4.9985	139.5008
09M093	2010-05-27 11:31	4.9993	139.5010
09M094	2010-05-27 14:33	4.9986	139.5010
09M095	2010-05-27 17:31	5.0005	139.5020
09M096	2010-05-27 20:32	4.9988	139.5003
09M097	2010-05-27 23:31	4.9988	139.4995
09M098	2010-05-28 02:31	4.9990	139.4980
09M099	2010-05-28 05:31	4.9993	139.5006
09M100	2010-05-28 08:30	4.9998	139.5016
09M101	2010-05-28 11:32	4.9986	139.4995
09M102	2010-05-28 14:32	4.9998	139.4996
09M103	2010-05-28 17:33	4.9990	139.5004
09M104	2010-05-28 20:31	4.9990	139.4991
09M105	2010-05-28 23:46	4.9976	139.4998
09M106	2010-05-29 02:31	4.9978	139.4985
09M107	2010-05-29 05:41	5.0003	139.4988
09M108	2010-05-29 08:32	4.9990	139.4998
09M109	2010-05-29 11:31	4.9976	139.4988
09M110	2010-05-29 14:33	4.9991	139.4990
09M111	2010-05-29 17:30	4.9991	139.4995
09M112	2010-05-29 20:32	5.0000	139.4995
09M113	2010-05-29 23:33	4.9990	139.5001
09M114	2010-05-30 02:31	4.9996	139.5001
09M115	2010-05-30 05:35	4.9995	139.4978
09M116	2010-05-30 08:31	5.0003	139.5004
09M117	2010-05-30 11:35	4.9985	139.5006
09M118	2010-05-30 14:34	4.9998	139.4998

Observation	Time and Date	Lat	Long
09M120	2010-05-30 20:33	4.9996	139.4996
09M121	2010-05-30 23:31	4.9986	139.5000
09M122	2010-05-31 02:31	4.9986	139.5008
09M123	2010-05-31 05:31	4.9991	139.5003
09M124	2010-05-31 08:33	4.9995	139.4995
09M125	2010-05-31 11:33	4.9980	139.4988
09M126	2010-05-31 14:33	4.9993	139.4998
09M127	2010-05-31 17:33	4.9995	139.5000
09M128	2010-05-31 20:31	5.0000	139.4996
09M129	2010-05-31 23:32	4.9991	139.4993
09M130	2010-06-01 02:31	5.0000	139.4998
09M131	2010-06-01 05:31	4.9996	139.5008
09M132	2010-06-01 08:34	4.9995	139.4998
09M133	2010-06-01 11:32	4.9996	139.5003
09M134	2010-06-01 14:31	4.9996	139.4996
09M135	2010-06-01 17:32	4.9998	139.5000
09M136	2010-06-01 20:32	4.9998	139.5001
09M137	2010-06-01 22:55	5.0000	139.4995
09M138	2010-06-02 02:31	4.9995	139.4996
09M139	2010-06-02 05:31	5.0000	139.5000
09M140	2010-06-02 08:35	4.9991	139.4996
09M141	2010-06-02 11:33	5.0000	139.5004
09M142	2010-06-02 14:33	5.0003	139.5000
09M143	2010-06-02 17:31	5.0001	139.4998
09M144	2010-06-02 20:31	5.0006	139.4998
09M145	2010-06-02 23:31	4.9996	139.5000
09M146	2010-06-03 02:31	5.0011	139.4995
09M147	2010-06-03 05:31	5.0003	139.4998
09M148	2010-06-03 08:33	4.9995	139.4996
09M149	2010-06-03 11:33	4.9993	139.5001
09M150	2010-06-03 14:31	4.9995	139.5000
09M151	2010-06-03 17:32	5.0000	139.4998
09M152	2010-06-03 20:31	4.9998	139.5000
09M153	2010-06-03 23:30	4.9995	139.5003
09M154	2010-06-04 02:32	4.9993	139.4995
09M155	2010-06-04 05:32	4.9991	139.4988
09M156	2010-06-04 08:35	4.9993	139.4998
09M157	2010-06-04 11:32	4.9995	139.5001
09M158	2010-06-04 14:32	5.0000	139.5000
09M159	2010-06-04 17:32	4.9995	139.5003
09M160	2010-06-04 20:32	5.0003	139.5004
09M161	2010-06-04 23:30	4.9993	139.4998
09M162	2010-06-05 02:32	4.9991	139.5001
09M163	2010-06-05 05:31	4.9995	139.5001
09M164	2010-06-05 08:34	4.9995	139.4996
09M165	2010-06-05 11:33	4.9991	139.4985
09M166	2010-06-05 14:32	4.9993	139.4998
09M167	2010-06-05 17:30	5.0001	139.5001
09M168	2010-06-05 20:32	5.0000	139.5006
09M169	2010-06-05 23:31	4.9996	139.5015
09M170	2010-06-06 02:32	4.9991	139.5004
09M171	2010-06-06 05:42	4.9996	139.4998
09M172	2010-06-06 08:34	4.9995	139.4988
09M173	2010-06-06 11:32	4.9990	139.4993
09M174	2010-06-06 14:31	4.9996	139.4988
09M175	2010-06-06 17:38	4.9988	139.5000
09M176	2010-06-06 20:30	4.9996	139.4996
09M177	2010-06-06 23:31	4.9995	139.5001
09M178	2010-06-07 02:32	4.9991	139.4998
09M179	2010-06-07 05:33	4.9981	139.5000
09M180	2010-06-07 08:35	4.9996	139.4995
09M181	2010-06-07 11:32	4.9996	139.4993
09M182	2010-06-07 14:32	4.9996	139.4993
09M183	2010-06-07 17:31	4.9998	139.5001
09M184	2010-06-07 20:34	4.9995	139.4998
09M185	2010-06-07 22:56	4.9990	139.5000
09M186	2010-06-08 02:31	4.9990	139.5003
09M187	2010-06-08 05:31	4.9990	139.5000
09M188	2010-06-08 08:33	4.9995	139.4995
09M189	2010-06-08 11:34	4.9996	139.4991
09M190	2010-06-08 14:32	5.0006	139.4993
09M191	2010-06-08 17:32	5.0001	139.4996
09M192	2010-06-08 20:31	4.9996	139.4996
09M193	2010-06-08 23:32	4.9996	139.4998
09M194	2010-06-09 02:32	4.9998	139.5003
09M195	2010-06-09 04:58	4.9995	139.4996
09M196	2010-06-09 08:33	5.0003	139.5000
09M197	2010-06-09 11:33	4.9991	139.4998
09M198	2010-06-09 14:32	4.9996	139.4995
09M199	2010-06-09 17:30	4.9995	139.4980
09M200	2010-06-09 20:31	4.9998	139.5000

Observation	Time and Date	Lat (°)	Lon (°)
09M201	2010-06-09 23:30	5.0083	139.4988
09M202	2010-06-10 02:32	4.9988	139.4996
09M203	2010-06-10 05:32	4.9993	139.4996
09M204	2010-06-10 08:34	4.9990	139.4991
09M205	2010-06-10 11:32	4.9990	139.4985
09M206	2010-06-10 14:32	4.9996	139.4993
09M207	2010-06-10 17:31	5.0001	139.5000
09M208	2010-06-10 20:31	4.9995	139.4991
09M209	2010-06-10 23:32	4.9991	139.4991
09M210	2010-06-11 02:32	4.9991	139.4993
09M211	2010-06-11 05:32	4.9991	139.5003
09M212	2010-06-11 08:34	4.9998	139.5000
09M213	2010-06-11 11:32	4.9990	139.4995
09M214	2010-06-11 14:33	5.0000	139.4998
09M215	2010-06-11 17:32	4.9998	139.5004
09M216	2010-06-11 20:31	4.9993	139.5001
09M217	2010-06-11 23:30	5.0003	139.5010
09M218	2010-06-12 02:30	4.9993	139.5015
09M219	2010-06-12 05:32	4.9995	139.4998
09M220	2010-06-12 08:34	4.9998	139.4995
09M221	2010-06-12 11:32	4.9988	139.5028
09M222	2010-06-12 14:32	4.9998	139.4996
09M223	2010-06-12 17:31	5.0000	139.5001
09M224	2010-06-12 20:33	4.9995	139.5001
09M225	2010-06-12 23:30	4.9993	139.5008
09M226	2010-06-13 02:32	4.9990	139.4995
09M227	2010-06-13 05:32	4.9995	139.4996
09M228	2010-06-13 08:33	4.9998	139.4998
09M229	2010-06-13 11:32	4.9991	139.5000
09M230	2010-06-13 14:32	4.9990	139.4998
09M231	2010-06-13 17:32	4.9996	139.5000
09M232	2010-06-13 20:32	4.9986	139.5001
09M233	2010-06-13 22:56	4.9983	139.4996
09M234	2010-06-14 02:32	4.9980	139.5000
09M235	2010-06-14 05:32	4.9985	139.5001
09M236	2010-06-14 08:33	4.9991	139.5000
09M237	2010-06-14 11:32	4.9995	139.4998
09M238	2010-06-14 14:31	4.9978	139.5003
09M239	2010-06-14 17:33	5.0000	139.5008
09M240	2010-06-14 20:31	5.0000	139.5003
09M241	2010-06-14 23:32	4.9993	139.5000
09M242	2010-06-15 02:32	5.0000	139.5006
09M243	2010-06-15 05:32	4.9991	139.4988
09M244	2010-06-15 08:34	4.9988	139.4998
09M245	2010-06-15 11:32	5.0000	139.5006
09M246	2010-06-15 14:30	4.9990	139.4991
09M247	2010-06-15 17:30	4.9996	139.4996
09M248	2010-06-15 20:33	4.9995	139.4995
09M249	2010-06-15 23:32	4.9995	139.5000
09M250	2010-06-16 02:31	4.9988	139.4993
09M251	2010-06-16 05:32	4.9981	139.5000
09M252	2010-06-16 08:35	4.9995	139.4995
09M253	2010-06-16 11:32	4.9998	139.5011
09M254	2010-06-16 14:32	4.9996	139.4985
09M255	2010-06-16 17:32	4.9998	139.4995
09M256	2010-06-16 20:31	5.0001	139.5010
09M257	2010-06-16 23:31	4.9991	139.5008
09M258	2010-06-17 02:32	5.0018	139.5016
09M259	2010-06-17 05:32	4.9995	139.5004
09M260	2010-06-17 08:33	4.9996	139.4996
09M261	2010-06-17 11:32	4.9996	139.5000
09M262	2010-06-17 14:32	4.9998	139.5000
09M263	2010-06-17 17:32	5.0003	139.5010
09M264	2010-06-17 20:33	5.0000	139.5015
09M265	2010-06-17 23:30	4.9996	139.5010
09M266	2010-06-18 02:31	4.9995	139.5008
09M267	2010-06-18 05:32	4.9995	139.5004
09M268	2010-06-18 08:35	4.9996	139.4998
09M269	2010-06-18 11:32	4.9996	139.5000
09M270	2010-06-18 14:31	4.9996	139.5000
09M271	2010-06-18 17:32	5.0001	139.4996
09M272	2010-06-18 20:30	4.9996	139.5001
09M273	2010-06-18 23:32	4.9995	139.5004
09M274	2010-06-19 02:32	4.9983	139.5006
09M275	2010-06-19 05:32	4.9986	139.4998
09M276	2010-06-19 08:32	4.9988	139.4996
09M277	2010-06-19 11:32	4.9990	139.5008
09M278	2010-06-19 14:33	4.9996	139.4995
09M279	2010-06-19 17:32	4.9991	139.5013
09M280	2010-06-19 20:30	4.9993	139.5010
09M281	2010-06-19 22:57	4.9998	139.5006
09M282	2010-06-20 02:31	4.9998	139.5001

Observation	Time and Date	Lat. [°]	Lon. [°]
09M283	2010-06-20 05:32	4.9981	139.5008
09M284	2010-06-20 08:33	4.9993	139.4991
09M285	2010-06-20 11:31	4.9991	139.4998
09M286	2010-06-21 02:55	4.9986	139.4936
09M287	2010-06-22 04:54	4.9993	139.5011
10M001	2010-06-20 18:55	4.9996	138.0004
11M001	2010-06-20 22:56	4.9996	138.7503
12M001	2010-06-21 06:53	4.9993	140.2493
13M001	2010-06-21 10:58	4.9998	141.0000
14M001	2010-06-21 20:52	3.4998	139.5006
15M001	2010-06-22 00:56	4.2490	139.4980
16M001	2010-06-22 08:55	5.7481	139.5015
17M001	2010-06-22 12:57	6.4996	139.5006
18M001	2010-06-22 19:55	7.9965	139.4980

Related Information

MR10-03 Leg2
Ship Name: MIRAI
Period: 2010-05-13 - 2010-06-27
Chief Scientist: Hiroyuki Yamada (JAMSTEC)
Project Name: [MJO Research]
Proposal ▶ Observational Study on Air-Sea Interaction in the Tropical Western Pacific Ocean
Title:

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2017-06-22	An observation data was registered.
2014-08-08	An observation data was registered.
2014-02-13	An observation data was registered.
2013-03-26	An observation data was registered.
2012-09-28	An observation data was registered.

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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 to a Dive Information

Dive ID:

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