

## MIRAI MR08-04 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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

Cruise ID: [MR08-04](#)

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/MR08-04\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR08-04_all.pdf)

### For Using Data

#### Principal Investigator

Data Management Office

#### Use Constraints

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

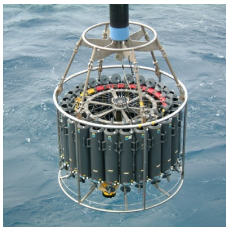
#### Data Citation

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

### Instrument

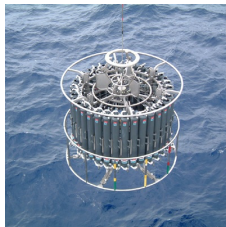
Instrument:

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



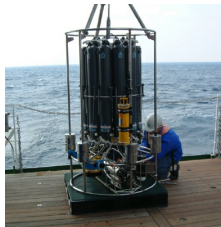
Instrument:

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



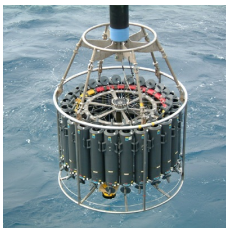
Instrument:

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 MR08-04 cruise are presented in "System".

The following software, developed and supplied by the Sea-Bird Electronics, Inc., was used in MR08-04.

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 : 031525

Measurement range : -5.0 to +35degC

Accuracy : 0.001degC

Resolution : 0.0002degC

#### • Salinity sensor

Model : SBE4, Sea-Bird Electronics,Inc.

Serial number : 041088

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 : 430330  
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
001M01	79492	031525	041088	430330
002M01	79492	031525	041088	430330
003M01	79492	031525	041088	430330
004M01	79492	031525	041088	430330
005M01	79492	031525	041088	430330
006M01	79492	031525	041088	430330
007M01	79492	031525	041088	430330
008M01	79492	031525	041088	430330
009M01	79492	031525	041088	430330
010M01	79492	031525	041088	430330
011M01	79492	031525	041088	430330
012M01	79492	031525	041088	430330
013M01	79492	031525	041088	430330
014M01	79492	031525	041088	430330
015M01	79492	031525	041088	430330
016M01	79492	031525	041088	430330
017M01	79492	031525	041088	430330
018M01	79492	031525	041088	430330
019M01	79492	031525	041088	430330
020M01	79492	031525	041088	430330
021M01	79492	031525	041088	430330
022M01	79492	031525	041088	430330
023M01	79492	031525	041088	430330
024M01	79492	031525	041088	430330
025M01	79492	031525	041088	430330
026M01	79492	031525	041088	430330
027M01	79492	031525	041088	430330
028M01	79492	031525	041088	430330
029M01	79492	031525	041088	430330
030M01	79492	031525	041088	430330
032M01	79492	031525	041088	430330
032M02	79492	031525	041088	430330
033M01	79492	031525	041088	430330
034M01	79492	031525	041088	430330
035M01	79492	031525	041088	430330
036M01	79492	031525	041088	430330
037M01	79492	031525	041088	430330
038M01	79492	031525	041088	430330
039M01	79492	031525	041088	430330
040M01	79492	031525	041088	430330
042M01	79492	031525	041088	430330
043M01	79492	031525	041088	430330
044M01	79492	031525	041088	430330
046M01	79492	031525	041088	430330
047M01	79492	031525	041088	430330
048M01	79492	031525	041088	430330
049M01	79492	031525	041088	430330
050M01	79492	031525	041088	430330
051M01	79492	031525	041088	430330
052M01	79492	031525	041088	430330
053M01	79492	031525	041088	430330
054M01	79492	031525	041088	430330
055M01	79492	031525	041088	430330
056M01	79492	031525	041088	430330
057M01	79492	031525	041088	430330
058M01	79492	031525	041088	430330
059M01	79492	031525	041088	430330
060M01	79492	031525	041088	430330
061M01	79492	031525	041088	430330
062M01	79492	031525	041088	430330
063M01	79492	031525	041088	430330
064M01	79492	031525	041088	430330
065M01	79492	031525	041088	430330
066M01	79492	031525	041088	430330
068M01	79492	031525	041088	430330
067M01	79492	031525	041088	430330
069M01	79492	031525	041088	430330
070M01	79492	031525	041088	430330

Cast name	Serial number of sensor		041088	430330
	Pressure	Temperature	Salinity	Dissolved Oxygen
071M01	79492	031525	041088	430330
072M01	79492	031525	041088	430330
073M01	79492	031525	041088	430330
074M01	79492	031525	041088	430330
075M01	79492	031525	041088	430330
076M01	79492	031525	041088	430330
078M01	79492	031525	041088	430330
079M01	79492	031525	041088	430330
080M01	79492	031525	041088	430330
081M01	79492	031525	041088	430330
082M01	79492	031525	041088	430330
083M01	79492	031525	041088	430330
084M01	79492	031525	041088	430330
085M01	79492	031525	041088	430330
086M01	79492	031525	041088	430330
087M01	79492	031525	041088	430330
088M01	79492	031525	041088	430330
088M02	79492	031525	041088	430330
089M01	79492	031525	041088	430330
090M01	79492	031525	041088	430330
091M01	79492	031525	041088	430330
092M01	79492	031525	041088	430330
093M01	79492	031525	041088	430330
094M01	79492	031525	041088	430330
095M01	79492	031525	041088	430330
096M01	79492	031525	041088	430330
097M01	79492	031525	041088	430330
098M01	79492	031525	041088	430330
099M01	79492	031525	041088	430330
099M02	79492	031525	041088	430330
100M01	79492	031525	041088	430330
101M01	79492	031525	041088	430330
102M01	79492	031525	041088	430330
103M01	79492	031525	041088	430330
104M01	79492	031525	041088	430330
105M01	79492	031525	041088	430330
106M01	79492	031525	041088	430330
107M01	79492	031525	041088	430330
108M01	79492	031525	041088	430330
109M01	79492	031525	041088	430330
110M01	79492	031525	041088	430330
111M01	79492	031525	041088	430330
112M01	79492	031525	041088	430330
113M01	79492	031525	041088	430330
114M01	79492	031525	041088	430330
115M01	79492	031525	041088	430330
116M01	79492	031525	041088	430330
117M01	79492	031525	041088	430330
118M01	79492	031525	041088	430330
119M01	79492	031525	041088	430330
120M01	79492	031525	041088	430330
121M01	79492	031525	041088	430330
121M02	79492	031525	041088	430330
122M01	79492	031525	041088	430330
123M01	79492	031525	041088	430330
124M01	79492	031525	041088	430330
125M01	79492	031525	041088	430330
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130M01	79492	031525	041088	430330
131M01	79492	031525	041088	430330
131M02	79492	031525	041088	430330
132M01	79492	031525	041088	430330
133M01	79492	031525	041088	430330
134M01	79492	031525	041088	430330
135M01	79492	031525	041088	430330
136M01	79492	031525	041088	430330
137M01	79492	031525	041088	430330
138M01	79492	031525	041088	430330
139M01	79492	031525	041088	430330
140M01	79492	031525	041088	430330
141M01	79492	031525	041088	430330
142M01	79492	031525	041088	430330
143M01	79492	031525	041088	430330
144M01	79492	031525	041088	430330

Cast name	Serial number of sensor	031525	041088	430330
	Pressure	Temperature	Salinity	Dissolved Oxygen
147M01	79492	031525	041088	430330
148M01	79492	031525	041088	430330
149M01	79492	031525	041088	430330
150M01	79492	031525	041088	430330
151M01	79492	031525	041088	430330
152M01	79492	031525	041088	430330
153M01	79492	031525	041088	430330
154M01	79492	031525	041088	430330
155M01	79492	031525	041088	430330
156M01	79492	031525	041088	430330
157M01	79492	031525	041088	430330
158M01	79492	031525	041088	430330
159M01	79492	031525	041088	430330
160M01	79492	031525	041088	430330
161M01	79492	031525	041088	430330
162M01	79492	031525	041088	430330
163M01	79492	031525	041088	430330
164M01	79492	031525	041088	430330
165M01	79492	031525	041088	430330
166M01	79492	031525	041088	430330
167M01	79492	031525	041088	430330
168M01	79492	031525	041088	430330
169M01	79492	031525	041088	430330
170M01	79492	031525	041088	430330
171M01	79492	031525	041088	430330
172M01	79492	031525	041088	430330
173M01	79492	031525	041088	430330
174M01	79492	031525	041088	430330
175M01	79492	031525	041088	430330
176M01	79492	031525	041088	430330
177M01	79492	031525	041088	430330
178M01	79492	031525	041088	430330
179M01	79492	031525	041088	430330
180M01	79492	031525	041088	430330
181M01	79492	031525	041088	430330
182M01	79492	031525	041088	430330
182M02	79492	031525	041088	430330
183M01	79492	031525	041088	430330
184M01	79492	031525	041088	430330
185M01	79492	031525	041088	430330
186M01	79492	031525	041088	430330
187M01	79492	031525	041088	430330
188M01	79492	031525	041088	430330
189M01	79492	031525	041088	430330
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191M01	79492	031525	041088	430330
192M01	79492	031525	041088	430330
193M01	79492	031525	041088	430330
194M01	79492	031525	041088	430330
195M01	79492	031525	041088	430330
196M01	79492	031525	041088	430330
197M01	79492	031525	041088	430330
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213M01	79492	031525	041088	430330
214M01	79492	031525	041088	430330
215M01	79492	031525	041088	430330
216M01	79492	031525	041088	430330
217M01	79492	031525	041088	430330
218M01	79492	031525	041088	430330
219M01	79492	031525	041088	430330
220M01	79492	031525	041088	430330

Cast number	Depth (m)	Temperature (°C)	Salinity (PSU)	Dissolved Oxygen (ml/l)
221M01	79492	031525	041088	430330
222M01	79492	031525	041088	430330
223M01	79492	031525	041088	430330
224M01	79492	031525	041088	430330
225M01	79492	031525	041088	430330
226M01	79492	031525	041088	430330
227M01	79492	031525	041088	430330
228M01	79492	031525	041088	430330
229M01	79492	031525	041088	430330
230M01	79492	031525	041088	430330
231M01	79492	031525	041088	430330
232M01	79492	031525	041088	430330
233M01	79492	031525	041088	430330
234M01	79492	031525	041088	430330
235M01	79492	031525	041088	430330
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238M01	79492	031525	041088	430330
239M01	79492	031525	041088	430330
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251M01	79492	031525	041088	430330
252M01	79492	031525	041088	430330
253M01	79492	031525	041088	430330
254M01	79492	031525	041088	430330
255M01	79492	031525	041088	430330
256M01	79492	031525	041088	430330
257M01	79492	031525	041088	430330
258M01	79492	031525	041088	430330
259M01	79492	031525	041088	430330
260M01	79492	031525	041088	430330

#### 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.
tcorp*	Corrected the pressure sensitivity of the temperature(SBE3) sensor.
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.
despike*	Remove spikes of the data.
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.

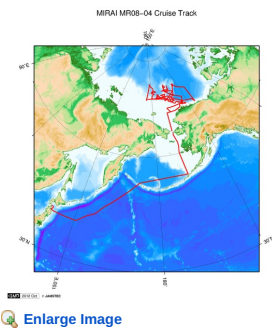
[QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA](#)

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, 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



**MR08-04**  
Ship Name: MIRAI  
Period: 2008-08-15 - 2008-10-09  
Chief Scientist: Koji Shimada (JAMSTEC)  
Project Name: [Arctic Ocean Climate System Reaserch]  
Proposal R/V Mirai International Polar Year 2008 cruise  
Title:

#### Update History

2017-06-22	An observation data was registerd.
2014-08-01	An observation data was registerd.
2014-02-15	An observation data was registerd.
2014-02-13	An observation data was registerd.
2013-03-27	An observation data was registerd.
2013-03-26	An observation data was registerd.
2012-10-27	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:

## MIRAI MR08-04 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 : <a href="#">Definition of Quality Control Flags</a>
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

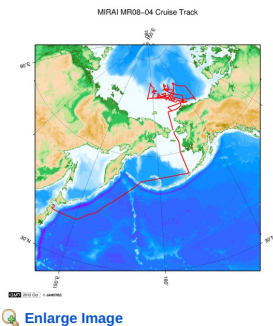
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

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

#### Sample Program

[ex\\_read2.f](#)

#### Related Information



#### MR08-04

Ship Name: MIRAI  
Period: 2008-08-15 - 2008-10-09  
Chief Scientist: Koji Shimada (JAMSTEC)  
Project Name: [Arctic Ocean Climate System Reaserch]  
Proposal R/V Mirai International Polar Year 2008 cruise  
Title:

#### Update History

2017-06-22	An observation data was registerd.
2014-08-01	An observation data was registerd.
2014-02-15	An observation data was registerd.
2014-02-13	An observation data was registerd.
2013-03-27	An observation data was registerd.
2013-03-26	An observation data was registerd.
2012-10-27	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 MR08-04 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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

Cruise ID: **MR08-04**

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

Data Policy: **JAMSTEC**

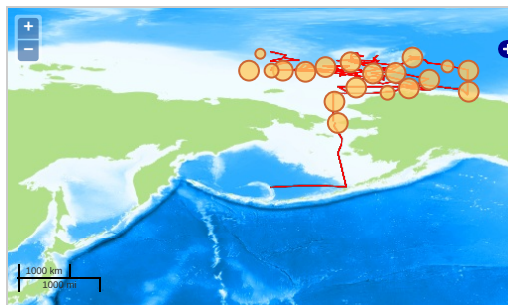
Observation Items: Pressure, Temperature, Salinity, Dissolved oxygen

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

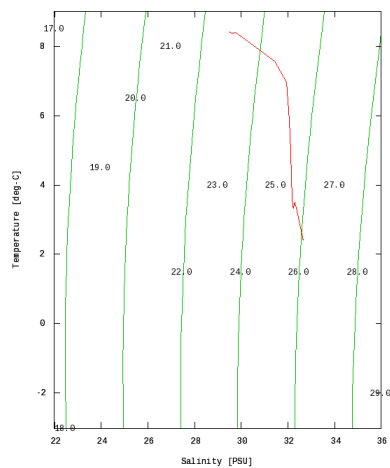
Imagery reproduced from ...

### Figures

001M01



MR08-04: 001M01  
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

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**Phenolates**

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257M01.dat

File names
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259M01.dat
260M01.dat
ex_read2.f (Sample Program)

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

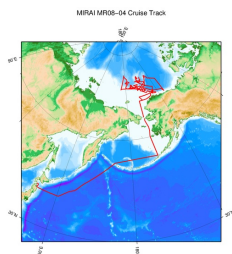
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002M01	2008-08-28 20:28	65.7201	-168.3306
003M01	2008-08-28 21:25	65.7531	-168.4923
004M01	2008-08-28 23:33	65.7873	-168.6633
005M01	2008-08-29 00:28	65.8138	-168.8193
006M01	2008-08-29 01:53	65.9951	-168.8323
007M01	2008-08-29 04:14	66.4951	-168.8298
008M01	2008-08-29 06:43	67.0000	-168.8301
009M01	2008-08-29 09:11	67.5006	-168.8320
010M01	2008-08-29 11:36	67.9945	-168.8296
011M01	2008-08-29 14:11	68.4981	-168.8346
012M01	2008-08-29 16:36	68.9988	-168.8293
013M01	2008-08-29 19:02	69.4980	-168.8336
014M01	2008-08-29 21:21	69.9908	-168.8311
015M01	2008-08-30 00:40	70.4981	-168.8338
016M01	2008-08-30 02:27	70.8331	-168.8323
017M01	2008-08-30 03:35	70.8310	-168.3595
018M01	2008-08-30 04:52	70.8351	-167.8360
019M01	2008-08-30 06:06	70.8343	-167.3311
020M01	2008-08-30 07:21	70.8355	-166.8514
021M01	2008-08-30 09:06	70.8336	-165.8506
022M01	2008-08-30 18:51	71.0729	-159.4096
023M01	2008-08-31 07:56	72.0013	-156.7470
024M01	2008-08-31 09:05	71.9500	-156.3763
025M01	2008-08-31 10:22	71.9004	-156.0063
026M01	2008-08-31 11:53	71.8498	-155.6295
027M01	2008-08-31 13:04	71.8110	-155.3291
028M01	2008-08-31 14:26	71.7475	-155.0973
029M01	2008-08-31 16:21	71.6815	-154.9321
030M01	2008-08-31 17:10	71.6256	-154.8390
032M01	2008-09-01 09:48	73.4031	-151.9953
032M02	2008-09-01 13:17	73.4010	-151.9981
033M01	2008-09-01 17:17	73.5990	-153.0004
034M01	2008-09-01 19:40	73.7951	-153.9851
035M01	2008-09-02 00:38	73.9973	-154.9895
036M01	2008-09-02 02:59	74.1961	-155.9863
037M01	2008-09-02 06:55	74.3955	-156.9808
038M01	2008-09-02 09:17	74.5978	-157.9916
039M01	2008-09-02 11:48	74.7983	-158.9958
040M01	2008-09-02 14:06	74.9980	-159.9930
042M01	2008-09-03 08:15	76.0000	-156.6645
043M01	2008-09-03 13:22	76.7478	-155.4308
044M01	2008-09-03 21:39	77.3291	-154.9761
046M01	2008-09-04 15:57	76.8946	-155.0086
047M01	2008-09-04 18:08	76.9206	-154.1141
048M01	2008-09-04 22:17	76.8750	-153.7486
049M01	2008-09-05 02:05	76.7505	-152.5056
050M01	2008-09-05 07:09	76.2510	-151.9903
051M01	2008-09-05 12:56	76.0011	-150.0038
052M01	2008-09-05 17:26	75.7520	-148.7701
053M01	2008-09-05 20:31	75.5006	-147.5240
054M01	2008-09-06 03:02	75.2523	-146.1658
055M01	2008-09-06 05:53	75.0115	-145.0508
056M01	2008-09-06 11:26	74.5046	-144.9963
057M01	2008-09-06 14:45	74.0136	-144.9973
058M01	2008-09-06 19:44	73.5065	-144.9995
059M01	2008-09-07 00:51	72.9910	-144.9746
060M01	2008-09-07 05:46	72.5023	-144.9996
061M01	2008-09-07 09:42	71.9998	-145.0020
062M01	2008-09-07 14:28	71.5050	-145.0035
063M01	2008-09-07 16:45	71.2585	-145.0008
064M01	2008-09-07 20:22	71.0865	-144.9944
065M01	2008-09-07 23:28	70.9606	-145.0066
066M01	2008-09-08 01:15	70.7616	-144.9991
067M01	2008-09-08 03:39	70.6861	-145.0006
068M01	2008-09-08 02:42	70.6141	-145.0023
069M01	2008-09-08 09:06	71.4993	-146.0040
070M01	2008-09-08 12:09	71.6253	-146.9935
071M01	2008-09-08 14:24	71.7460	-147.9793
072M01	2008-09-08 19:54	71.8743	-148.9950
073M01	2008-09-08 22:20	71.9993	-149.9958
074M01	2008-09-09 01:51	72.1191	-150.9891
075M01	2008-09-09 04:09	72.2481	-151.9933
076M01	2008-09-09 16:57	71.8045	-155.3020

078M01 Observation	2008-09-09 21:25 Time and Date	71.6776 Lat. [°]	-154.9768 Lon. [°]
079M01	2008-09-10 01:21	71.7345	-155.1796
080M01	2008-09-10 08:32	72.4996	-154.0125
081M01	2008-09-10 12:22	72.7476	-154.9940
082M01	2008-09-10 14:57	72.9953	-155.9808
083M01	2008-09-10 18:55	73.2485	-157.0015
084M01	2008-09-10 23:13	73.5025	-158.0653
085M01	2008-09-11 02:53	73.7793	-158.9750
086M01	2008-09-11 05:42	73.9988	-159.9948
087M01	2008-09-11 09:01	74.2438	-160.9820
088M01	2008-09-11 12:02	74.4976	-161.9968
088M02	2008-09-11 14:12	74.4998	-161.9996
089M01	2008-09-12 08:05	75.2500	-161.0050
090M01	2008-09-12 11:43	75.4988	-161.9903
091M01	2008-09-12 14:37	75.7370	-162.9495
092M01	2008-09-12 19:32	75.9415	-163.7846
093M01	2008-09-13 01:10	76.2608	-164.9726
094M01	2008-09-13 03:28	76.4943	-165.9786
095M01	2008-09-13 06:11	76.4171	-164.6775
096M01	2008-09-13 08:43	76.3291	-163.3548
097M01	2008-09-13 11:23	76.2420	-162.1490
098M01	2008-09-13 22:39	77.5206	-161.0168
099M01	2008-09-14 05:04	76.6035	-161.1745
099M02	2008-09-14 09:40	76.6220	-161.0710
100M01	2008-09-15 01:06	76.6400	-168.0881
101M01	2008-09-15 03:36	76.6720	-167.2513
102M01	2008-09-15 07:26	76.9743	-165.5011
103M01	2008-09-15 22:29	77.7371	-164.8656
104M01	2008-09-16 14:54	76.1490	-161.0073
105M01	2008-09-16 17:40	76.0511	-160.0155
106M01	2008-09-16 21:29	75.9505	-159.0216
107M01	2008-09-17 01:12	75.8430	-157.9666
108M01	2008-09-17 03:06	75.6303	-157.7568
109M01	2008-09-17 05:05	75.5051	-158.4746
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111M01	2008-09-17 12:38	75.2481	-160.0343
112M01	2008-09-17 15:30	75.1253	-160.7420
113M01	2008-09-17 17:58	75.0030	-161.4821
114M01	2008-09-17 22:44	74.8753	-162.2420
115M01	2008-09-18 01:17	74.7498	-162.9940
116M01	2008-09-18 03:53	74.6245	-163.7476
117M01	2008-09-18 05:56	74.5006	-164.4970
118M01	2008-09-18 09:03	74.3781	-165.2318
119M01	2008-09-18 10:54	74.2514	-165.9998
120M01	2008-09-18 12:44	74.1128	-166.7845
121M01	2008-09-18 14:11	74.0386	-167.2330
121M02	2008-09-18 17:55	73.9816	-167.5966
122M01	2008-09-18 21:13	74.2411	-167.3488
123M01	2008-09-18 23:00	74.5006	-167.1665
124M01	2008-09-19 00:51	74.7426	-167.0100
125M01	2008-09-19 02:43	74.9978	-166.8350
126M01	2008-09-19 03:54	74.9996	-167.2223
127M01	2008-09-19 04:49	74.9988	-167.4876
128M01	2008-09-19 10:05	75.6766	-166.0313
129M01	2008-09-19 12:00	75.6656	-166.8016
130M01	2008-09-19 13:36	75.6666	-167.6188
131M01	2008-09-19 17:28	75.6335	-170.4311
131M02	2008-09-19 20:52	75.6366	-170.5575
132M01	2008-09-19 23:35	75.5330	-169.7556
133M01	2008-09-20 01:38	75.4186	-168.9898
134M01	2008-09-20 03:53	75.2510	-168.0115
135M01	2008-09-20 06:00	75.0061	-168.9726
136M01	2008-09-20 08:21	74.7501	-169.9988
137M01	2008-09-20 10:11	74.7488	-170.9815
138M01	2008-09-20 13:11	74.7518	-172.0215
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144M01	2008-09-21 19:09	74.9968	-177.0956
145M01	2008-09-21 22:03	74.9975	-176.0045
146M01	2008-09-22 00:09	75.0028	-175.0086
147M01	2008-09-22 03:31	75.0001	-174.0053
148M01	2008-09-22 05:14	75.0001	-173.0435
149M01	2008-09-22 08:29	75.0000	-171.0403
150M01	2008-09-22 10:31	74.9998	-170.0033
151M01	2008-09-22 14:35	74.9998	-168.0336
152M01	2008-09-22 17:07	75.0000	-166.5053
153M01	2008-09-22 18:28	75.0003	-166.0083
154M01	2008-09-22 20:32	74.9993	-165.0061
155M01	2008-09-22 23:26	75.0091	-164.0258

Observation	Time and Date	Lat (°)	Long (°)
157M01	2008-09-23 08:04	74.2496	-162.9986
158M01	2008-09-23 10:09	74.0074	-163.0031
159M01	2008-09-23 12:23	73.7081	-162.7451
160M01	2008-09-23 14:09	73.4423	-162.5411
161M01	2008-09-23 16:24	73.1556	-162.3295
162M01	2008-09-23 21:15	73.2485	-161.0263
163M01	2008-09-24 02:31	73.5194	-159.8716
164M01	2008-09-24 06:40	73.3816	-160.4148
165M01	2008-09-24 13:55	73.9578	-161.5225
166M01	2008-09-25 20:36	74.9996	-177.9985
167M01	2008-09-25 22:24	74.9998	-178.9636
168M01	2008-09-26 00:48	75.0018	179.9944
169M01	2008-09-26 03:18	74.9998	179.0036
170M01	2008-09-26 05:10	74.9998	178.0051
171M01	2008-09-26 06:56	75.0001	177.0208
172M01	2008-09-26 08:47	75.0000	176.0021
173M01	2008-09-26 11:53	74.7500	174.7535
174M01	2008-09-26 13:48	74.9986	174.9971
175M01	2008-09-26 15:55	75.3273	175.3278
176M01	2008-09-26 19:13	75.6655	175.6630
177M01	2008-09-26 22:13	75.9975	176.0053
178M01	2008-09-27 01:22	76.3328	176.3305
179M01	2008-09-27 03:53	76.6573	176.6555
180M01	2008-09-27 06:57	76.9978	176.9938
181M01	2008-09-27 09:50	77.3336	177.3381
182M01	2008-09-27 12:35	77.6660	177.6670
182M02	2008-09-27 15:51	77.6760	177.7081
183M01	2008-09-27 18:43	77.9986	177.9976
184M01	2008-09-28 00:02	78.8981	178.5008
185M01	2008-09-28 06:01	78.0055	-179.0185
186M01	2008-09-28 10:02	77.6013	-177.3375
187M01	2008-09-28 12:27	77.3351	-177.6020
188M01	2008-09-28 14:32	77.1671	-177.7660
189M01	2008-09-28 17:00	77.0001	-176.8475
190M01	2008-09-28 20:04	76.8610	-176.0773
191M01	2008-09-28 23:23	76.6695	-174.9998
192M01	2008-09-29 02:48	76.6410	-176.3213
193M01	2008-09-29 05:23	76.6208	-177.3066
194M01	2008-09-29 07:50	76.6001	-178.3266
195M01	2008-09-29 11:18	77.0010	-177.9180
196M01	2008-09-29 15:32	76.6116	-179.9395
197M01	2008-09-29 22:26	76.1596	-176.9023
198M01	2008-09-30 02:33	76.0333	-178.4058
199M01	2008-09-30 04:51	75.8035	-178.8263
200M01	2008-09-30 07:16	75.5685	-179.3291
201M01	2008-09-30 10:06	75.3021	-179.7446
202M01	2008-09-30 12:25	75.1090	-179.0026
203M01	2008-09-30 22:28	75.2463	-174.7671
204M01	2008-10-01 00:02	75.4153	-174.5813
205M01	2008-10-01 02:17	75.6616	-174.3396
206M01	2008-10-01 05:25	75.9986	-173.9988
207M01	2008-10-01 09:06	75.7571	-172.7440
208M01	2008-10-02 03:48	73.6240	-164.9946
209M01	2008-10-02 06:21	73.4998	-164.0046
210M01	2008-10-02 08:40	73.2526	-163.0170
211M01	2008-10-02 10:57	73.0546	-162.0315
212M01	2008-10-02 13:36	72.7508	-161.0023
213M01	2008-10-02 15:37	72.5570	-160.0383
214M01	2008-10-02 17:24	72.6979	-159.2575
215M01	2008-10-02 19:25	72.8321	-158.6703
216M01	2008-10-02 22:35	72.5846	-157.6733
217M01	2008-10-03 02:10	72.3066	-156.6795
218M01	2008-10-03 03:43	72.4311	-156.2235
219M01	2008-10-03 08:46	72.0000	-154.0085
220M01	2008-10-03 11:22	71.8021	-153.0010
221M01	2008-10-03 14:39	71.5013	-151.6570
222M01	2008-10-03 17:46	71.3963	-152.0366
223M01	2008-10-03 22:12	71.6680	-154.9830
224M01	2008-10-03 23:25	71.7283	-155.1706
225M01	2008-10-04 00:51	71.8040	-155.3450
226M01	2008-10-04 03:37	71.9975	-157.0883
227M01	2008-10-04 05:23	71.9995	-157.9968
228M01	2008-10-04 07:10	71.9986	-158.9801
229M01	2008-10-04 08:57	71.9981	-159.9846
230M01	2008-10-04 10:44	71.9973	-160.9856
231M01	2008-10-04 12:29	71.9980	-161.9743
232M01	2008-10-04 14:53	71.9988	-162.9888
233M01	2008-10-04 16:45	71.9996	-163.9976
234M01	2008-10-04 18:39	71.9988	-164.9688
235M01	2008-10-04 20:41	71.9990	-165.9980
236M01	2008-10-04 22:31	71.9983	-166.9726

Observation	Time and Date	Lat. (°)	Lon. (°)
237M01	2008-10-05 00:23	71.9991	-167.9955
238M01	2008-10-05 02:54	71.6148	-167.2891
239M01	2008-10-05 05:31	71.2235	-166.5635
240M01	2008-10-05 08:06	70.8391	-165.8523
241M01	2008-10-05 10:18	70.8340	-166.8365
242M01	2008-10-05 11:23	70.8326	-167.3280
243M01	2008-10-05 12:33	70.8321	-167.8356
244M01	2008-10-05 13:50	70.8330	-168.3313
245M01	2008-10-05 14:56	70.8331	-168.8313
246M01	2008-10-05 16:46	70.5011	-168.8308
247M01	2008-10-05 19:16	70.0003	-168.8338
248M01	2008-10-05 21:42	69.5006	-168.8310
249M01	2008-10-06 00:05	69.0005	-168.8313
250M01	2008-10-06 02:33	68.5018	-168.8338
251M01	2008-10-06 04:58	68.0083	-168.8368
252M01	2008-10-06 07:35	67.5066	-168.8295
253M01	2008-10-06 10:02	67.0115	-168.8316
254M01	2008-10-06 12:36	66.5123	-168.8315
255M01	2008-10-06 14:57	66.0156	-168.8345
256M01	2008-10-06 16:53	65.7616	-168.5108
257M01	2008-10-06 17:41	65.7225	-168.3505
258M01	2008-10-06 18:14	65.7078	-168.2716
259M01	2008-10-06 19:29	65.7856	-168.6623
260M01	2008-10-06 20:09	65.8155	-168.8133

#### Related Information



[Enlarge Image](#)

#### MR08-04

Ship Name: MIRAI  
Period: 2008-08-15 - 2008-10-09  
Chief Scientist: Koji Shimada (JAMSTEC)  
Project Name: [Arctic Ocean Climate System Research]  
Proposal: R/V Mirai International Polar Year 2008 cruise  
Title:

#### Update History

2017-06-22	An observation data was registered.
2014-08-01	An observation data was registered.
2014-02-15	An observation data was registered.
2014-02-13	An observation data was registered.
2013-03-27	An observation data was registered.
2013-03-26	An observation data was registered.
2012-10-27	An observation data was registered.

#### JAMSTEC

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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:

