

MIRAI MR08-04 Expendable Conductivity-Temperature-Depth Profiler (XCTD)

Last Modified: 2019-08-29

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

Cruise ID: **MR08-04**

Expendable Conductivity-Temperature-Depth Profiler (XCTD): Processed (DMO)-QCed

Data Policy: **JAMSTEC**

Observation Items: Depth, Temperature, Salinity

Science Keywords:

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

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:

Expendable conductivity temperature

depth measurements (XCTD) (-

MR11-E02)



Overview

Using XCTD (eXpendable Conductivity Temperature Depth profiler) system, the vertical distribution of water temperature and salinity are observed during free fall of its probe part in the seawater. Observed temperature and conductivity are transmitted to the data processor on board by the digital signal. The digital signal is converted to the temperature, conductivity and depth by data processor as binary data. Binary data is transmitted from data processor to PC. The PC calculates salinity from temperature, conductivity and depth, and those properties are recorded in PC as the ASCII files.

System

(1) Launcher

Hand launcher

Manufacturer : Sippican, Inc.

Operation area : Rear upper deck

Automatic launcher

Manufacturer : Tsurumi Seiki Co., LTD.

Location : Port side of rear upper deck (4m from the sea level). The control panel is installed in the investigation room.

(2) Converter

Manufacturer : Tsurumi Seiki Co., LTD.

Location : Investigation room

Sampling rate : 40 msec

(3) XCTD probe specifications

Probe Type	TSK XCTD-1	TSK XCTD-2	TSK XCTD-3	TSK XCTD-4
Temperature range [deg-C]	-2 to 35			
Temperature accuracy [deg-C]	+/- 0.02			
Temperature resolution [deg-C]	0.01			
Conductivity range [mS/cm]	0 to 60			
Conductivity accuracy [mS/cm]	+/- 0.03			
Conductivity resolution [mS/cm]	0.015			
Measurement depth [m]	1000	1850	1000	1850
Depth accuracy [m]	5 or +/- 2% of depth; whichever is larger			
Maximum elapsed time [sec]	300	600	200	502
Rated ship speed [knot]	12	3.5	20	6

Since XCTD carries no pressure sensor, we need to estimate depth from the elapsed time. The fall-rate equation is as follows.

$$Z = at + 10E^{-3} * bt^2$$

Where Z(m) is the depth and t(sec) is the elapsed time.

In addition, coefficients of the fall-rate equation are different by probe types.

Probe Type	TSK XCTD-1	TSK XCTD-2	TSK XCTD-3	TSK XCTD-4
Coefficient-a	3.42543	3.43898	5.07598	3.68081
Coefficient-b	-0.47	-0.31	-0.72	-0.47

* Coefficients listed above are supplied by Sippican, Inc., in USA.

The list of an XCTD type used in each cast is as follows.

Cast name	Probe Serial No.	Probe Type	Launcher	Converter
200809010222	08069456	XCTD-1	Auto	MK-100
200809010254	08069453	XCTD-1	Auto	MK-100
200809010344	08069451	XCTD-1	Auto	MK-100
200809010500	08069395	XCTD-1	Auto	MK-100
200809010728	08069454	XCTD-1	Auto	MK-100
200809011637	08069394	XCTD-1	Auto	MK-100
200809011903	08069455	XCTD-1	Auto	MK-100
200809012356	08069452	XCTD-1	Auto	MK-100
200809020221	08069561	XCTD-1	Auto	MK-100
200809020618	08069457	XCTD-1	Auto	MK-100
200809020825	08069559	XCTD-1	Auto	MK-100
200809020854	08069460	XCTD-1	Auto	MK-100
200809021055	08069459	XCTD-1	Auto	MK-100
200809021124	08069560	XCTD-1	Auto	MK-100
200809021313	08069564	XCTD-1	Auto	MK-100
200809021342	08069458	XCTD-1	Auto	MK-100
200809030238	08069566	XCTD-1	Auto	MK-100
200809030345	08069563	XCTD-1	Auto	MK-100
200809030454	08069565	XCTD-1	Auto	MK-100
200809030630	08069568	XCTD-1	Auto	MK-100
200809031041	08069569	XCTD-1	Auto	MK-100
200809031205	08069562	XCTD-1	Auto	MK-100
200809031541	08069570	XCTD-1	Auto	MK-100
200809031708	08069567	XCTD-1	Auto	MK-100
200809032358	08069381	XCTD-1	Auto	MK-100
200809050121	08069379	XCTD-1	Auto	MK-100
200809050555	08069380	XCTD-1	Auto	MK-100
200809051142	08069374	XCTD-1	Auto	MK-100
200809051632	08069373	XCTD-1	Auto	MK-100
200809051937	08069376	XCTD-1	Auto	MK-100
200809060205	08069372	XCTD-1	Auto	MK-100
200809060506	08069371	XCTD-1	Auto	MK-100
200809061013	08069375	XCTD-1	Auto	MK-100
200809061341	08069392	XCTD-1	Auto	MK-100
200809061836	08069393	XCTD-1	Auto	MK-100
200809062158	08069370	XCTD-1	Auto	MK-100
200809070433	08069580	XCTD-1	Auto	MK-100
200809070808	08069572	XCTD-1	Auto	MK-100
200809071319	08069573	XCTD-1	Auto	MK-100
200809081110	08069378	XCTD-1	Auto	MK-100
200809081348	08069377	XCTD-1	Auto	MK-100
200809081907	08069581	XCTD-1	Auto	MK-100
200809082139	08069582	XCTD-1	Auto	MK-100
200809090112	08069578	XCTD-1	Auto	MK-100
200809090330	08069579	XCTD-1	Auto	MK-100
200809090823	08069577	XCTD-1	Auto	MK-100
200809091308	08069575	XCTD-1	Auto	MK-100
200809091359	08069576	XCTD-1	Auto	MK-100
200809092010	08069571	XCTD-1	Auto	MK-100
200809101133	08069385	XCTD-1	Auto	MK-100
200809101416	08069389	XCTD-1	Auto	MK-100
200809101808	08069391	XCTD-1	Auto	MK-100
200809102053	08069574	XCTD-1	Auto	MK-100
200809110205	08069390	XCTD-1	Auto	MK-100
200809110445	08069387	XCTD-1	Auto	MK-100
200809110812	08069386	XCTD-1	Auto	MK-100
200809111059	08069640	XCTD-1	Auto	MK-100
200809111645	08069384	XCTD-1	Auto	MK-100
200809111752	08069383	XCTD-1	Auto	MK-100
200809111859	08069637	XCTD-1	Auto	MK-100
200809120637	08069382	XCTD-1	Auto	MK-100
200809121047	08069643	XCTD-1	Auto	MK-100
200809121400	08069642	XCTD-1	Auto	MK-100
200809121800	08069641	XCTD-1	Auto	MK-100
200809122148	08069634	XCTD-1	Auto	MK-100
200809130247	08069639	XCTD-1	Auto	MK-100
200809130536	08069632	XCTD-1	Auto	MK-100

Cast name	Probe Serial No.	Probe Type	Auto Launcher	MR-100 Converter
200809130748	08069638	XCTD-1	Auto	MK-100
200809131032	08069388	XCTD-1	Auto	MK-100
200809131531	08069636	XCTD-1	Auto	MK-100
200809131629	08069473	XCTD-1	Auto	MK-100
200809131720	08069474	XCTD-1	Auto	MK-100
200809131819	08069475	XCTD-1	Auto	MK-100
200809131916	08069479	XCTD-1	Auto	MK-100
200809132008	08069633	XCTD-1	Auto	MK-100
200809132058	08069478	XCTD-1	Auto	MK-100
200809132216	08069635	XCTD-1	Auto	MK-100
200809141751	08069483	XCTD-1	Auto	MK-100
200809141907	08069484	XCTD-1	Auto	MK-100
200809142018	08069489	XCTD-1	Auto	MK-100
200809142112	08069477	XCTD-1	Auto	MK-100
200809150320	08069491	XCTD-1	Auto	MK-100
200809151517	08069487	XCTD-1	Auto	MK-100
200809151608	08069492	XCTD-1	Auto	MK-100
200809151655	08069481	XCTD-1	Auto	MK-100
200809151744	08069480	XCTD-1	Auto	MK-100
200809151812	08069476	XCTD-1	Auto	MK-100
200809151838	08069482	XCTD-1	Auto	MK-100
200809152033	08069494	XCTD-1	Auto	MK-100
200809152109	08069496	XCTD-1	Auto	MK-100
200809152158	08069495	XCTD-1	Auto	MK-100
200809160033	08069488	XCTD-1	Auto	MK-100
200809160134	08069497	XCTD-1	Auto	MK-100
200809160207	08069490	XCTD-1	Auto	MK-100
200809160251	08069498	XCTD-1	Auto	MK-100
200809160312	08069549	XCTD-1	Auto	MK-100
200809160335	08069548	XCTD-1	Auto	MK-100
200809160357	08069493	XCTD-1	Auto	MK-100
200809160422	08069550	XCTD-1	Auto	MK-100
200809161415	08069552	XCTD-1	Auto	MK-100
200809161711	08069551	XCTD-1	Auto	MK-100
200809162055	08069547	XCTD-1	Auto	MK-100
200809162255	08069553	XCTD-1	Auto	MK-100
200809191543	08069557	XCTD-1	Auto	MK-100
200809191610	08069554	XCTD-1	Auto	MK-100
200809191630	08069605	XCTD-1	Auto	MK-100
200809191710	08069606	XCTD-1	Auto	MK-100
200809192306	08069556	XCTD-1	Auto	MK-100
200809200057	08069603	XCTD-1	Auto	MK-100
200809201856	08069555	XCTD-1	Auto	MK-100
200809202010	08069558	XCTD-1	Auto	MK-100
200809202229	08069601	XCTD-1	Auto	MK-100
200809202317	08069598	XCTD-1	Auto	MK-100
200809210110	08069602	XCTD-1	Auto	MK-100
200809210206	08069604	XCTD-1	Auto	MK-100
200809232019	08069596	XCTD-1	Auto	MK-100
200809232229	08069597	XCTD-1	Auto	MK-100
200809232332	08069595	XCTD-1	Auto	MK-100
200809240431	08069593	XCTD-1	Auto	MK-100
200809240501	08069594	XCTD-1	Auto	MK-100
200809240535	08069600	XCTD-1	Auto	MK-100
200809240609	08069592	XCTD-1	Auto	MK-100
200809240821	08069585	XCTD-1	Auto	MK-100
200809240853	08069588	XCTD-1	Auto	MK-100
200809240941	08069587	XCTD-1	Auto	MK-100
200809241022	08069586	XCTD-1	Auto	MK-100
200809241059	08069590	XCTD-1	Auto	MK-100
200809241135	08069589	XCTD-1	Auto	MK-100
200809241211	08069599	XCTD-1	Auto	MK-100
200809241927	08069591	XCTD-1	Auto	MK-100
200809250057	08069499	XCTD-1	Auto	MK-100
200809250209	08069503	XCTD-1	Auto	MK-100
200809250321	08069583	XCTD-1	Auto	MK-100
200809250605	08069502	XCTD-1	Auto	MK-100
200809250717	08069501	XCTD-1	Auto	MK-100
200809250826	08069504	XCTD-1	Auto	MK-100
200809261309	08069509	XCTD-1	Auto	MK-100
200809261508	08069584	XCTD-1	Auto	MK-100
200809261823	08069500	XCTD-1	Auto	MK-100
200809262039	08069506	XCTD-1	Auto	MK-100
200809270035	08069510	XCTD-1	Auto	MK-100
200809270307	08069507	XCTD-1	Auto	MK-100
200809270607	08069505	XCTD-1	Auto	MK-100
200809270622	08069496	XCTD-1	Auto	MK-100

ZU0809270900 Cast name	0806946b Probe Serial No.	XCTD-1 Probe Type	Auto Launcher	MK-100 Converter
200809271147	08069508	XCTD-1	Auto	MK-100
200809271757	08069462	XCTD-1	Auto	MK-100
200809272059	08069465	XCTD-1	Auto	MK-100
200809272142	08069464	XCTD-1	Auto	MK-100
200809272225	08069461	XCTD-1	Auto	MK-100
200809272305	08069463	XCTD-1	Auto	MK-100
200809280436	08069520	XCTD-1	Auto	MK-100
200809280843	08069472	XCTD-1	Auto	MK-100
200809280924	08069467	XCTD-1	Auto	MK-100
200809281149	08069470	XCTD-1	Auto	MK-100
200809281408	08069471	XCTD-1	Auto	MK-100
200809281627	08069468	XCTD-1	Auto	MK-100
200809281938	08069469	XCTD-1	Auto	MK-100
200809282247	08069522	XCTD-1	Auto	MK-100
200809290150	08069514	XCTD-1	Auto	MK-100
200809290451	08069515	XCTD-1	Auto	MK-100
200809290719	08069519	XCTD-1	Auto	MK-100
200809290950	08069512	XCTD-1	Auto	MK-100
200809291336	08069518	XCTD-1	Auto	MK-100
200809291439	08069511	XCTD-1	Auto	MK-100
200809291737	08069517	XCTD-1	Auto	MK-100
200809291823	08069521	XCTD-1	Auto	MK-100
200809292046	08069516	XCTD-1	Auto	MK-100
200809300112	08069527	XCTD-1	Auto	MK-100
200809300418	08069523	XCTD-1	Auto	MK-100
200809300640	08069524	XCTD-1	Auto	MK-100
200809300928	08069525	XCTD-1	Auto	MK-100
200809301145	08069526	XCTD-1	Auto	MK-100
200810010145	08069513	XCTD-1	Auto	MK-100
200810010438	08069528	XCTD-1	Auto	MK-100
200810010812	08069613	XCTD-1	Auto	MK-100
200810011152	08069531	XCTD-1	Auto	MK-100
200810011244	08069530	XCTD-1	Auto	MK-100
200810011332	08069533	XCTD-1	Auto	MK-100
200810011526	08069532	XCTD-1	Auto	MK-100
200810011834	08069534	XCTD-1	Auto	MK-100
200810011925	08069529	XCTD-1	Auto	MK-100
200810012057	08069610	XCTD-1	Auto	MK-100
200810020129	08069615	XCTD-1	Auto	MK-100
200810020259	08069618	XCTD-1	Auto	MK-100
200810022049	08069608	XCTD-1	Auto	MK-100
200810022154	08069617	XCTD-1	Hand	MK-100
200810030019	08069614	XCTD-1	Hand	MK-100
200810030115	08069612	XCTD-1	Auto	MK-100
200810030600	08069631	XCTD-1	Auto	MK-100
200810030700	08069630	XCTD-1	Auto	MK-100
200810030756	08069629	XCTD-1	Auto	MK-100
200810031033	08069616	XCTD-1	Auto	MK-100
200810031320	08069619	XCTD-1	Auto	MK-100
200810031715	08069611	XCTD-1	Auto	MK-100
200810031720	08069609	XCTD-1	Auto	MK-100
200810031729	08069626	XCTD-1	Auto	MK-100

Data processing

(1) For sensor's stability, values of less than 1 m for temperature and less than 3 m for salinity are replaced by missing values, respectively, based on manufacturer's recommendation.

(2) Quality control

QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure.

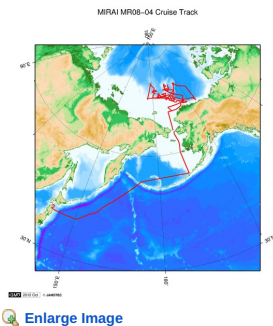
- 1) The gradient check of adjacent depth data
- 2) The density inversion check
- 3) The broad range check set up at given ocean space and depth

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



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

2019-08-29	An observation data was registered.
2017-06-14	An observation data was registered.
2014-08-01	An observation data was registered.
2014-02-18	An observation data was registered.
2012-10-27	An observation data was registered.

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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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JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

国立研究開発法人
海洋研究開発機構

MIRAI MR08-04 Expendable Conductivity-Temperature-Depth Profiler (XCTD)

Last Modified: 2019-08-29

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 Cruise ID: [MR08-04](#)

Expendable Conductivity-Temperature-Depth Profiler (XCTD): Processed (DMO)-QCed

 Data Policy: [JAMSTEC](#)

XCTD 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	XCTD
3	8 - 22	Cruise ID	a15	
4	33 - 40	Date	i8	YYYYMMDD (UTC)
5	42 - 45	Time	i4	hhmm (UTC)
6	47 - 55	Latitude	i2,a1,f5.2,a1	dd-mm.mmN(S)
7	57 - 66	Longitude	i3,a1,f5.2,a1	ddd-mm.mmE(W)
8	68 - 71	Number of data lines	i4	
9	72 - 73	Terminator	-	CR+LF

Data part

No.	Column	Content	Unit	Format	Remarks
1	1 - 11	Depth	m	f11.1	
2	12 - 22	Temperature	deg-C	f11.2	ITS-90
3	23 - 33	Salinity	PSU	f11.3	PSS-78
4	45 - 55	Flag	-	i11	1 - 7 : space 8 : flag of depth 9 : flag of temperature 10 : flag of salinity 11 : space * reference : Definition of Quality Control Flags
5	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

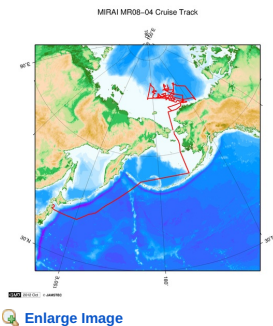
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

[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

2019-08-29	An observation data was registerd.
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2012-10-27	An observation data was registerd.

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 KAIREI
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 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 Expendable Conductivity-Temperature-Depth Profiler (XCTD)

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Expendable Conductivity-Temperature-Depth Profiler (XCTD): Processed (DMO)-QCed

Data Policy: **JAMSTEC**

Observation Items: Depth, Temperature, Salinity

Science Keywords:

OCEANS > OCEAN > 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.



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

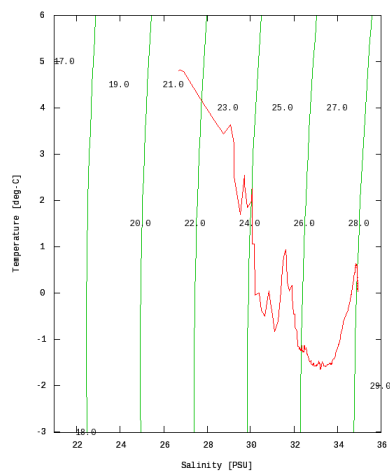
Imagery reproduced from ...

Figures

200809010222



MR08-04: 200809010222
Expendable Conductivity-Temperature-Depth Profiler (XCTD): 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

☐ 200809010222.dat
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200810031720.dat
200810031729.dat
ex_read2.f (Sample Program)

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

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200809010500	2008-09-01 04:55	72.5335	-153.7163
200809010728	2008-09-01 07:23	73.0001	-152.7829
200809011637	2008-09-01 16:32	73.5014	-152.5003
200809011903	2008-09-01 18:58	73.7001	-153.5006
200809012356	2008-09-01 23:51	73.8746	-154.5001
200809020221	2008-09-02 02:16	74.1006	-155.5004
200809020618	2008-09-02 06:13	74.2925	-156.5000
200809020825	2008-09-02 08:20	74.4665	-157.3331
200809020854	2008-09-02 08:49	74.5325	-157.6668
200809021055	2008-09-02 10:50	74.6733	-158.3336
200809021124	2008-09-02 11:19	74.7401	-158.6668
200809021313	2008-09-02 13:08	74.8658	-159.3340
200809021342	2008-09-02 13:37	74.9330	-159.6670
200809030238	2008-09-03 02:33	75.0005	-158.3333
200809030345	2008-09-03 03:40	75.2503	-157.9176
200809030454	2008-09-03 04:49	75.5003	-157.4925
200809030630	2008-09-03 06:25	75.7501	-157.0841
200809031041	2008-09-03 10:37	76.2500	-156.2641
200809031205	2008-09-03 12:02	76.5000	-155.7955
200809031541	2008-09-03 15:36	77.0000	-155.0953
200809031708	2008-09-03 17:03	77.2498	-154.5613
200809032358	2008-09-03 23:53	77.3700	-155.1403
200809050121	2008-09-05 01:16	76.8285	-153.0943
200809050555	2008-09-05 05:50	76.5000	-152.2533
200809051142	2008-09-05 11:37	76.1078	-150.9995
200809051632	2008-09-05 16:27	75.8770	-149.3746
200809051937	2008-09-05 19:32	75.6261	-148.1241
200809060205	2008-09-06 02:00	75.3815	-146.8246
200809060506	2008-09-06 05:01	75.1245	-145.5746
200809061013	2008-09-06 10:08	74.7498	-144.9903
200809061341	2008-09-06 13:36	74.2498	-144.9933
200809061836	2008-09-06 18:31	73.7498	-144.9925
200809062158	2008-09-06 21:53	73.2498	-144.9870
200809070433	2008-09-07 04:28	72.7498	-144.9801
200809070808	2008-09-07 08:03	72.2498	-145.0001
200809071319	2008-09-07 13:14	71.7498	-145.0098
200809081110	2008-09-08 11:05	71.5815	-146.5000
200809081348	2008-09-08 13:43	71.6811	-147.4996
200809081907	2008-09-08 19:02	71.8036	-148.5000
200809082139	2008-09-08 21:34	71.9361	-149.5001
200809090112	2008-09-09 01:07	72.0540	-150.5000
200809090330	2008-09-09 03:25	72.1798	-151.5023
200809090823	2008-09-09 08:18	72.3768	-153.0001
200809091308	2008-09-09 13:07	71.6801	-154.9820
200809091359	2008-09-09 13:57	71.7376	-155.1611
200809092010	2008-09-09 20:08	71.7443	-155.1611
200809101133	2008-09-10 11:28	72.6335	-154.5001
200809101416	2008-09-10 14:11	72.8741	-155.4996
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200809110205	2008-09-11 02:00	73.6156	-158.5000
200809110445	2008-09-11 04:40	73.8953	-159.4998
200809110812	2008-09-11 08:07	74.1203	-160.4998
200809111059	2008-09-11 10:54	74.3720	-161.4998
200809111645	2008-09-11 16:40	74.5254	-160.9998
200809111752	2008-09-11 17:48	74.5528	-160.0001
200809111858	2008-09-11 18:54	74.5875	-159.0000

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200809121047	2008-09-12 10:42	75.3653	-161.5000
200809121400	2008-09-12 13:55	75.6253	-162.5001
200809121800	2008-09-12 17:55	75.8720	-163.4998
200809122148	2008-09-12 21:43	76.1205	-164.5000
200809130247	2008-09-13 02:42	76.3806	-165.4998
200809130526	2008-09-13 05:21	76.4593	-165.3334
200809130748	2008-09-13 07:43	76.3760	-163.9998
200809131032	2008-09-13 10:27	76.2915	-162.6661
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200809131720	2008-09-13 17:17	76.6570	-161.3838
200809131819	2008-09-13 18:16	76.8333	-161.5751
200809131916	2008-09-13 19:13	76.9998	-161.5070
200809132008	2008-09-13 20:02	77.1666	-161.3076
200809132058	2008-09-13 20:53	77.3333	-161.1901
200809132216	2008-09-13 22:13	77.5134	-161.0353
200809141751	2008-09-14 17:47	76.6458	-163.1663
200809141907	2008-09-14 19:04	76.6881	-164.3331
200809142018	2008-09-14 20:13	76.7501	-165.5001
200809142112	2008-09-14 21:08	76.6653	-166.3333
200809150320	2008-09-15 03:15	76.6645	-167.4840
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200809151608	2008-09-15 16:04	77.3331	-165.6610
200809151655	2008-09-15 16:51	77.5000	-165.7028
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200809151812	2008-09-15 18:09	77.7560	-165.5578
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200809152109	2008-09-15 21:07	77.9168	-164.4776
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200809160033	2008-09-16 00:32	77.6166	-164.5566
200809160134	2008-09-16 01:33	77.5180	-163.7420
200809160207	2008-09-16 02:05	77.4436	-163.5161
200809160251	2008-09-16 02:48	77.3328	-164.0001
200809160312	2008-09-16 03:11	77.3310	-164.3334
200809160335	2008-09-16 03:33	77.3325	-164.6668
200809160357	2008-09-16 03:55	77.3308	-165.0006
200809160422	2008-09-16 04:18	77.3316	-165.3333
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200809161711	2008-09-16 17:06	76.0990	-160.5001
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200810011925	2008-10-01 19:23	74.6866	-167.8043
200810012057	2008-10-01 20:55	74.5228	-166.5273
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200810030019	2008-10-03 00:14	72.6810	-157.2711
200810030115	2008-10-03 01:10	72.5000	-156.9846
200810030600	2008-10-03 05:55	72.2950	-155.6731
200810030700	2008-10-03 06:56	72.1668	-155.1330
200810030756	2008-10-03 07:51	72.0805	-154.5668
200810031033	2008-10-03 10:29	71.9053	-153.4980
200810031320	2008-10-03 13:17	71.6611	-152.3768
200810031715	2008-10-03 17:11	71.4681	-151.7775
200810031720	2008-10-03 17:18	71.4538	-151.8236
200810031729	2008-10-03 17:28	71.4315	-151.9045

Related Information



MIRAI MR08-04 Cruise Track

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:

[Enlarge Image](#)

Update History

2019-08-29	An observation data was registerd.
2017-06-14	An observation data was registerd.
2014-08-01	An observation data was registerd.
2014-02-18	An observation data was registerd.
2012-10-27	An observation data was registerd.

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Application for Data and

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Publication List
Amount of Public Info.
Data

Information of the Ships
NATSUSHIMA
KAIYO
YOKOSUKA

Information of the Submersibles
KAICO
SHINKAI 2000

Go to a Cruise Information

Cruise ID:

Go

Samples
Data Policy

What's New
Update History
Feeds

Map Search
Data Tree
Detailed Search

MIRAI
KAIREI
CHIKYU
KAIMEI
SHINSEI MARU
HAKUHO MARU

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

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Dive ID:

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