MIRAI MR10-05 Leg2 Expendable Conductivity-Temperature-Depth Profiler (XCTD)

Last Modified: 2019-08-31

ReadMe | Observation Data | Data Format

Cruise ID: MR10-05 Leg2
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/MR10-05_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:
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			
Measurment 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
201009060232	08069628	XCTD-1	Auto	MK-130
201009060540	10027244	XCTD-1	Auto	MK-130
201009061117	10027240	XCTD-1	Auto	MK-130
201009061724	05032435	XCTD-1	Auto	MK-130
201009062312	08069625	XCTD-1	Auto	MK-130
201009070517	05032434	XCTD-1	Auto	MK-130
201009071119	10027247	XCTD-1	Auto	MK-130
201009080409	10027243	XCTD-1	Auto	MK-130
201009080548	10027242	XCTD-1	Auto	MK-130
201009080710	10027246	XCTD-1	Auto	MK-130
201009080832	10027245	XCTD-1	Auto	MK-130
201009080957	10027239	XCTD-1	Auto	MK-130
201009081136	10027250	XCTD-1	Auto	MK-130
201009081643	10027241	XCTD-1	Auto	MK-130
201009081932	10027249	XCTD-1	Auto	MK-130
201009082339	10027168	XCTD-1	Auto	MK-130
201009090052	10027172	XCTD-1	Auto	MK-130
201009090207	10027248	XCTD-1	Auto	MK-130
201009090324	10027173	XCTD-1	Auto	MK-130
201009090450	10027167	XCTD-1	Auto	MK-130
201009090618	10027171	XCTD-1	Auto	MK-130
201009090745	10027170	XCTD-1	Auto	MK-130
201009090857	10027169	XCTD-1	Auto	MK-130
201009091032	10027175	XCTD-1	Auto	MK-130
201009091210	10027174	XCTD-1	Auto	MK-130
201009101750	10037320	XCTD-1	Auto	MK-130
201009102214	10027176	XCTD-1	Auto	MK-130
201009110258	10027177	XCTD-1	Auto	MK-130
201009120706	10037322	XCTD-1	Auto	MK-130
201009120715	10037319	XCTD-1	Auto	MK-130
201009120727	10037317	XCTD-1	Auto	MK-130
201009120740	10037315	XCTD-1	Auto	MK-130
201009120751	10027178	XCTD-1	Auto	MK-130
201009120808	10037316	XCTD-1	Auto	MK-130
201009120817	10037321	XCTD-1	Auto	MK-130
201009120844	10037318	XCTD-1	Auto	MK-130
201009120909	10037314	XCTD-1	Auto	MK-130
201009121841	10037312	XCTD-1	Auto	MK-130
201009121949	10037311	XCTD-1	Auto	MK-130
201009130244	10037274	XCTD-1	Auto	MK-130
201009131719	10037270	XCTD-1	Auto	MK-130
201009132316	10037269	XCTD-1	Auto	MK-130
201009140515	10037271	XCTD-1	Auto	MK-130
201009141113	10037313	XCTD-1	Auto	MK-130
201009141548	10037273	XCTD-1	Auto	MK-130
201009141735	10037266	XCTD-1	Auto	MK-130
201009141929	10037272	XCTD-1	Auto	MK-130
201009142034	10037267	XCTD-1	Auto	MK-130
201009142129	10037310	XCTD-1	Auto	MK-130
201009142330	10037309	XCTD-1	Auto	MK-130
201009150129	10037263	XCTD-1	Auto	MK-130
201009150232	10037265	XCTD-1	Auto	MK-130
201009150329	10037268	XCTD-1	Auto	MK-130
201009150528	10037264	XCTD-1	Auto	MK-130
201009151729	10037308	XCTD-1	Auto	MK-130
201009151930	10037306	XCTD-1	Auto	MK-130
201009170334	10037301	XCTD-1	Auto	MK-130
201009170407	10037300	XCTD-1	Auto	MK-130
201009170527	10037299	XCTD-1	Auto	MK-130
201009170733	10037304	XCTD-1	Auto	MK-130
201009170928	10037303	XCTD-1	Auto	MK-130
201009171132	10037305	XCTD-1	Auto	MK-130
201009171350	10037302	XCTD-1	Auto	MK-130
201009180329	10037290	XCTD-1	Auto	MK-130
201009180442	10037287	XCTD-1	Auto	MK-130
201009180558	10037289	XCTD-1	Auto	MK-130
201009180711	10037288	XCTD-1	Auto	MK-130

Cast name	Probe Serial No.	Probe Type	Launcher	Converter
201009180711	10037288	XCTD-1	Auto	MK-130
201009181456	10037307	XCTD-1	Auto	MK-130
201009181956	10037291	XCTD-1	Auto	MK-130
201009191121	10037295	XCTD-1	Auto	MK-130
201009191453	10037293	XCTD-1	Auto	MK-130
201009191931	10037292	XCTD-1	Auto	MK-130
201009200453	10037298	XCTD-1	Auto	MK-130
201009200806	10037294	XCTD-1	Auto	MK-130
201009211947	10037297	XCTD-1	Auto	MK-130
201009220257	09064540	XCTD-1	Auto	MK-130
201009220610	09064537	XCTD-1	Auto	MK-130
201009221154	10037296	XCTD-1	Auto	MK-130
201009221514	08069623	XCTD-1	Auto	MK-130
201009230507	09064466	XCTD-1	Auto	MK-130
201009231006	09064543	XCTD-1	Auto	MK-130
201009231732	08069627	XCTD-1	Auto	MK-130
201009232028	09064541	XCTD-1	Auto	MK-130
201009240725	09064539	XCTD-1	Auto	MK-130
201009240829	09064544	XCTD-1	Auto	MK-130
201009241006	09064536	XCTD-1	Auto	MK-130
201009241129	09064538	XCTD-1	Auto	MK-130
201009241428	10027150	XCTD-1	Auto	MK-130
201009241728	08069624	XCTD-1	Auto	MK-130
201009242136	10027144	XCTD-1	Auto	MK-130
201009242151	10027147	XCTD-1	Auto	MK-130
201009250229	10027145	XCTD-1	Auto	MK-130
201009250319	10027148	XCTD-1	Auto	MK-130
201009251359	10027151	XCTD-1	Auto	MK-130
201009251659	10027154	XCTD-1	Auto	MK-130
201009252221	10027152	XCTD-1	Auto	MK-130
201009252333	10027149	XCTD-1	Auto	MK-130
201009252338	10027153	XCTD-1	Auto	MK-130
201009260115	10027208	XCTD-1	Hand	MK-130
201009261122	10027212	XCTD-1	Auto	MK-130
201009271111	10027213	XCTD-1	Auto	MK-130
201009271426	10027146	XCTD-1	Auto	MK-130
201009271740	10027143	XCTD-1	Auto	MK-130
201009272323	10027211	XCTD-1	Auto	MK-130
201009280528	10027210	XCTD-1	Auto	MK-130
201009280825	10027209	XCTD-1	Auto	MK-130
201009281128	10027203	XCTD-1	Auto	MK-130
201009300605	10027205	XCTD-1	Auto	MK-130
201009301116	10027204	XCTD-1	Auto	MK-130
201010011208	10027207	XCTD-1	Auto	MK-130
201010011306	10027165	XCTD-1	Auto	MK-130
201010011404	10027206	XCTD-1	Auto	MK-130
201010012129	10027164	XCTD-1	Auto	MK-130
201010020110	10027166	XCTD-1	Auto	MK-130
201010021023	10027162	XCTD-1	Auto	MK-130
201010021234	10027159	XCTD-1	Auto	MK-130
201010021419	10027158	XCTD-1	Auto	MK-130
201010021457	10027163	XCTD-1	Auto	MK-130
201010021538	10027161	XCTD-1	Auto	MK-130
201010040337	09022851	XCTD-2	Auto	MK-130
201010040525	09022848	XCTD-2	Auto	MK-130
201010040642	10027160	XCTD-1	Auto	MK-130
201010040742	10027156	XCTD-1	Auto	MK-130
201010040841	10027155	XCTD-1	Auto	MK-130
201010041653	10027157	XCTD-1	Auto	MK-130
201010041825	10027215	XCTD-1	Auto	MK-130
201010050819	10027216	XCTD-1	Auto	MK-130
201010051927	10027217	XCTD-1	Auto	MK-130
201010061053	10027220	XCTD-1	Auto	MK-130
201010061313	10027218	XCTD-1	Auto	MK-130
201010061756	10027219	XCTD-1	Auto	MK-130
201010070213	10027223	XCTD-1	Auto	MK-130
201010070701	10027222	XCTD-1	Auto	MK-130
201010072130	09022852	XCTD-2	Auto	MK-130
201010072249	09022849	XCTD-2	Auto	MK-130
201010080226	09022858	XCTD-2	Auto	MK-130
201010080316	09022856	XCTD-2	Auto	MK-130
201010080407	09022854	XCTD-2	Auto	MK-130
201010080451	09022859	XCTD-2	Auto	MK-130
201010080836	09022855	XCTD-2	Auto	MK-130
201010080940	09022850	XCTD-2	Auto	MK-130
201010081512	09022857	XCTD-2	Auto	MK-130
201010081813	09022853	XCTD-2	Auto	MK-130
201010081854	09022871	XCTD-2	Auto	MK-130

Cast name	Probe Serial No.	Probe Type	Launcher	Converter
201010081854	09022871	XCTD-2	Auto	MK-130
201010081930	09022870	XCTD-2	Auto	MK-130
201010082017	10027224	XCTD-1	Auto	MK-130
201010082103	10027221	XCTD-1	Auto	MK-130
201010082147	10027225	XCTD-1	Auto	MK-130
201010082230	10037444	XCTD-1	Auto	MK-130
201010082313	10027226	XCTD-1	Auto	MK-130
201010090614	09022869	XCTD-2	Auto	MK-130
201010090739	09064457	XCTD-1	Auto	MK-130
201010091120	09064456	XCTD-1	Auto	MK-130
201010091258	09022866	XCTD-2	Auto	MK-130
201010091331	09064452	XCTD-1	Auto	MK-130
201010091622	09064454	XCTD-1	Auto	MK-130
201010092030	09064455	XCTD-1	Auto	MK-130
201010092118	09064453	XCTD-1	Auto	MK-130
201010100131	09064459	XCTD-1	Auto	MK-130
201010100309	09064458	XCTD-1	Auto	MK-130
201010101358	09022867	XCTD-2	Auto	MK-130
201010101712	09022865	XCTD-2	Auto	MK-130
201010102325	09022860	XCTD-2	Auto	MK-130
201010110530	09022863	XCTD-2	Auto	MK-130
201010110828	09022864	XCTD-2	Auto	MK-130
201010111123	09022868	XCTD-2	Auto	MK-130
201010111820	09064460	XCTD-1	Auto	MK-130
201010112256	09064463	XCTD-1	Auto	MK-130

Data processing

(1) For sensor's stablility, 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

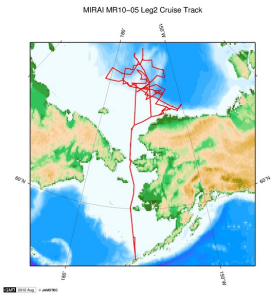
3) The broad range check set up at given ocean space and depth

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



Enlarge Image

MR10-05 Leg2
Ship Name: MIRAI
Period: 2010-09-02 - 2010-10-16
Chief Scientist: Motoyo Ito (JAMSTEC)
Project Name: [Arctic Ocean Climate System Reaserch]
Proposal ▶ Arctic Climate Oceanography
Title:

Update History

2019-08-31	An observation data was registerd.
2017-06-14	An observation data was registerd.
2014-08-07	An observation data was registerd.
2014-02-18	An observation data was registerd.
2012-10-31	An observation data was registerd.

MIRAI MR10-05 Leg2 Expendable Conductivity-Temperature-Depth Profiler (XCTD)

Last Modified: 2019-08-31

Cruise ID: MR10-05 Leg2
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'.

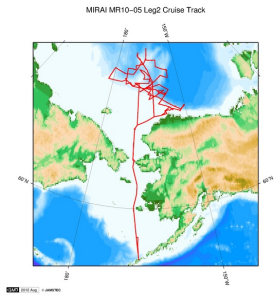
Definition of Quality Control Flags
1. Depth Flags
- 0 - accepted value
- 1 - error in recorded depth (same or less than previous depth)
- 2 - density inversion

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



Enlarge Image

MR10-05 Leg2
Ship Name: MIRAI
Period: 2010-09-02 - 2010-10-16
Chief Scientist: Motoyo Ito (JAMSTEC)
Project Name: [Arctic Ocean Climate System Reaserch]
Proposal ▸ Arctic Climate Oceanography
Title:

Update History

2019-08-31	An observation data was registerd.
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MIRAI MR10-05 Leg2 Expendable Conductivity-Temperature-Depth Profiler (XCTD)

Last Modified: 2019-08-31

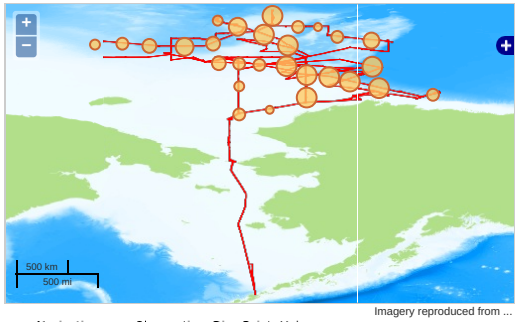
ReadMe | Observation Data | Data Format

Cruise ID: MR10-05 Leg2
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

Observation Map

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

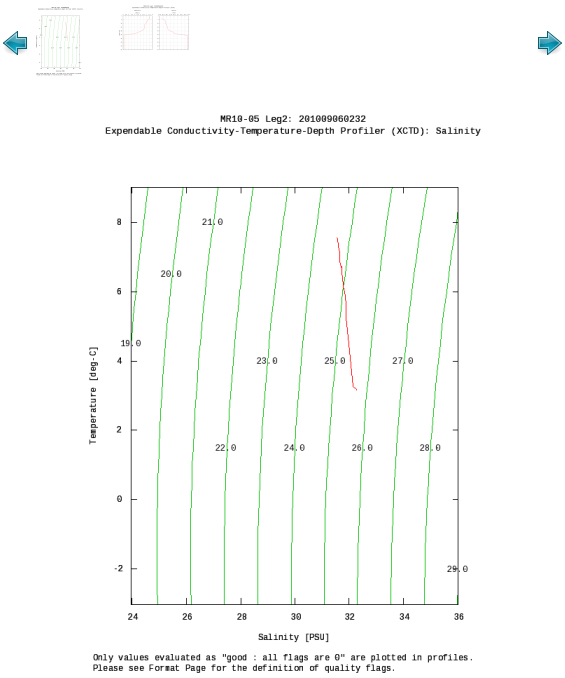


Imagery reproduced from ...

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

Figures

201009060232



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
201009060232.dat
201009060540.dat
201009061117.dat
201009061724.dat
201009062312.dat
201009070517.dat
201009071119.dat
201009080409.dat
201009080548.dat
201009080710.dat
201009080832.dat
201009080957.dat
201009081136.dat
201009081643.dat

Filenames

201009081932.dat
201009082339.dat
201009090052.dat
201009090207.dat
201009090324.dat
201009090450.dat
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File names
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201010012129.dat
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201010090614.dat
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201010091120.dat
201010091258.dat
201010091331.dat
201010091622.dat
201010092030.dat
201010092118.dat
201010100131.dat
201010100309.dat
201010101358.dat
201010101712.dat
201010102325.dat
201010110530.dat
201010110828.dat
201010111123.dat
201010111820.dat
201010112256.dat
ex_read2.f (Sample Program)

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

Observation	Time and Date	Lat. [°]	Lon. [°]
201009060232	2010-09-06 02:35	70.0011	-167.9881
201009060540	2010-09-06 05:45	70.4990	-167.9775
201009061117	2010-09-06 11:18	71.5006	-168.0220
201009061724	2010-09-06 17:25	72.4991	-167.9888
201009062312	2010-09-06 23:14	73.5030	-168.0125
201009070517	2010-09-07 05:21	74.5018	-167.9948

Observation	Time and Date	Lat. [°]	Lon. [°]
201009071119	2010-09-07 11:20	74.7961	-169.4995
201009080409	2010-09-08 04:12	74.5505	-169.7990
201009080548	2010-09-08 05:49	74.5161	-168.5900
201009080710	2010-09-08 07:12	74.4548	-167.3993
201009080832	2010-09-08 08:35	74.4013	-166.1996
201009080957	2010-09-08 09:59	74.3530	-164.9995
201009081136	2010-09-08 11:38	74.2831	-163.7840
201009081643	2010-09-08 16:44	74.1331	-162.8945
201009081932	2010-09-08 19:34	73.8906	-163.5336
201009082339	2010-09-08 23:40	73.5561	-162.9993
201009090052	2010-09-09 00:54	73.4886	-161.9998
201009090207	2010-09-09 02:09	73.4033	-161.0000
201009090324	2010-09-09 03:25	73.3166	-159.9996
201009090450	2010-09-09 04:51	73.1240	-159.0830
201009090618	2010-09-09 06:20	72.9158	-158.1666
201009090745	2010-09-09 07:47	72.7095	-157.2496
201009090857	2010-09-09 08:59	72.5456	-156.5000
201009091032	2010-09-09 10:34	72.3325	-155.5836
201009091210	2010-09-09 12:11	72.1243	-154.6665
201009101750	2010-09-10 17:51	71.7435	-150.7880
201009102214	2010-09-10 22:15	71.6153	-151.3666
201009110258	2010-09-11 03:00	71.3985	-152.0003
201009120706	2010-09-12 07:07	71.6078	-154.8471
201009120715	2010-09-12 07:20	71.6418	-154.9220
201009120727	2010-09-12 07:32	71.6710	-154.9951
201009120740	2010-09-12 07:44	71.6979	-155.0690
201009120751	2010-09-12 07:55	71.7250	-155.1440
201009120808	2010-09-12 08:08	71.7580	-155.2410
201009120817	2010-09-12 08:21	71.7913	-155.3293
201009120844	2010-09-12 08:47	71.8560	-155.4950
201009120909	2010-09-12 09:11	71.9176	-155.6493
201009121841	2010-09-12 18:42	71.7975	-155.3116
201009121949	2010-09-12 19:50	71.6840	-154.9563
201009130244	2010-09-13 02:45	71.5870	-155.9423
201009131719	2010-09-13 17:20	71.5001	-161.9996
201009132316	2010-09-13 23:21	72.5000	-161.9840
201009140515	2010-09-14 05:19	73.5000	-161.9873
201009141113	2010-09-14 11:15	74.4998	-161.9480
201009141548	2010-09-14 15:49	75.1318	-161.7893
201009141735	2010-09-14 17:36	75.4973	-162.5635
201009141929	2010-09-14 19:30	75.9181	-163.2196
201009142034	2010-09-14 20:35	76.1238	-163.6676
201009142129	2010-09-14 21:30	76.3308	-163.9700
201009142330	2010-09-14 23:34	76.7476	-164.8803
201009150129	2010-09-15 01:30	77.0833	-165.7958
201009150232	2010-09-15 02:33	77.2498	-166.3833
201009150329	2010-09-15 03:30	77.4345	-166.8918
201009150528	2010-09-15 05:30	77.7810	-168.1226
201009151729	2010-09-15 17:30	78.3250	-169.8986
201009151930	2010-09-15 19:31	78.5746	-169.7245
201009170334	2010-09-17 03:35	77.0821	-168.2726
201009170407	2010-09-17 04:08	76.9851	-168.5048
201009170527	2010-09-17 05:29	76.7106	-169.1976
201009170733	2010-09-17 07:34	76.2851	-170.3090
201009170928	2010-09-17 09:31	76.0020	-171.2213
201009171132	2010-09-17 11:33	76.0026	-172.8398
201009171350	2010-09-17 13:51	75.9996	-174.2733
201009180329	2010-09-18 03:31	76.0840	-175.9665
201009180442	2010-09-18 04:44	76.1811	-177.1330
201009180558	2010-09-18 06:02	76.2801	-178.3670
201009180711	2010-09-18 07:13	76.3595	-179.2995
201009181456	2010-09-18 14:57	76.2001	179.2041
201009181956	2010-09-18 19:57	75.6165	178.4608
201009191121	2010-09-19 11:22	74.9910	-178.9998
201009191453	2010-09-19 14:55	75.0011	-176.9998
201009191931	2010-09-19 19:32	75.1281	-175.0020
201009200453	2010-09-20 04:55	74.8798	-172.9996
201009200806	2010-09-20 08:08	74.8000	-171.4950
201009211947	2010-09-21 19:48	76.0461	-174.0045
201009220257	2010-09-22 03:00	76.4583	-173.9991
201009220610	2010-09-22 06:11	76.6645	-172.9958
201009221154	2010-09-22 11:55	76.5900	-170.9986
201009221514	2010-09-22 15:15	76.8748	-169.9965
201009230507	2010-09-23 05:09	77.2383	-167.1170
201009231006	2010-09-23 10:10	77.6168	-165.7481
201009231732	2010-09-23 17:33	78.7468	-165.0358
201009232028	2010-09-23 20:29	79.1540	-165.0053
201009240725	2010-09-24 07:26	78.7385	-164.9491
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Observation	Time and Date	Lat. [°]	Lon. [°]
201009241428	2010-09-24 14:29	77.8385	-165.1558
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201009242136	2010-09-24 21:38	77.7646	-162.7661
201009242151	2010-09-24 21:52	77.7651	-162.5328
201009250229	2010-09-25 02:30	77.7518	-161.7195
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201009251659	2010-09-25 17:00	76.7065	-157.7503
201009252221	2010-09-25 22:22	76.5573	-156.2504
201009252333	2010-09-25 23:34	76.4976	-155.5311
201009252338	2010-09-25 23:39	76.4988	-155.5360
201009260115	2010-09-26 01:16	76.3736	-154.5983
201009261122	2010-09-26 11:23	75.9211	-154.7621
201009271111	2010-09-27 11:13	75.4333	-160.0629
201009271426	2010-09-27 14:28	75.0018	-162.0186
201009271740	2010-09-27 17:41	74.4620	-161.9793
201009272323	2010-09-27 23:28	73.4998	-162.0068
201009280528	2010-09-28 05:30	72.4921	-161.9783
201009280825	2010-09-28 08:27	71.9996	-162.0051
201009281128	2010-09-28 11:29	71.4996	-162.0031
201009300605	2010-09-30 06:07	72.0721	-156.5003
201009301116	2010-09-30 11:17	72.3690	-158.7496
201010011208	2010-10-01 12:10	73.6333	-156.5130
201010011306	2010-10-01 13:07	73.7831	-156.1461
201010011404	2010-10-01 14:06	73.9333	-155.7253
201010012129	2010-10-01 21:30	74.2353	-156.1663
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201010021023	2010-10-02 10:26	74.7026	-160.5001
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201010080836	2010-10-08 08:37	73.6210	-157.8080
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201010081854	2010-10-08 18:56	73.9860	-159.6196
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201010082103	2010-10-08 21:05	74.0805	-159.6315
201010082147	2010-10-08 21:48	74.0651	-159.1003
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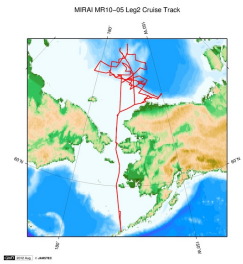
201010112256	2010-10-11 22:57	70.4111	-165.2838

Related Information



Enlarge Image

MR10-05 Leg2
Ship Name: MIRAI
Period: 2010-09-02 - 2010-10-16
Chief Scientist: Motoyo Ito (JAMSTEC)
Project Name: [Arctic Ocean Climate System Reaserch]
Proposal ▸ Arctic Climate Oceanography
Title:

Update History

2019-08-31	An observation data was registerd.
2017-06-14	An observation data was registerd.
2014-08-07	An observation data was registerd.
2014-02-18	An observation data was registerd.
2012-10-31	An observation data was registerd.