

MIRAI MR00-K03 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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

Cruise ID: [MR00-K03](#)

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/MR00-K03_all.pdf

i 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

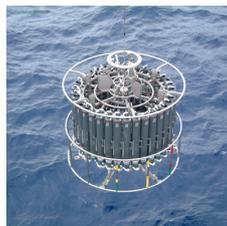
Instrument:

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 MR00-K03 cruise are presented in "System".

The following software, developed and supplied by the Sea-Bird Electronics, Inc., was used in MR00-K03.

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 : 51190

Measurement range : up to 10500m

Accuracy : 0.015% F.S.

Resolution : 0.001% F.S.

• 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 : 031525

Measurement range : -5.0 to +35degC

Accuracy : 0.001degC

- Resolution : 0.0002degC
- Temperature sensor
 - Model : SBE3, Sea-Bird Electronics, Inc.
 - Serial number : 031359
 - Measurement range : -5.0 to +35degC
 - Accuracy : 0.001degC
 - Resolution : 0.0002degC
 - Salinity sensor
 - Model : SBE4, Sea-Bird Electronics, Inc.
 - Serial number : 041088
 - Measurement range : 0.0 to 7 S/m
 - Accuracy : 0.0003 S/m
 - Resolution : 0.00004 S/m
 - Salinity sensor
 - Model : SBE4, Sea-Bird Electronics, Inc.
 - Serial number : 041206
 - Measurement range : 0.0 to 7 S/m
 - Accuracy : 0.0003 S/m
 - Resolution : 0.00004 S/m

Sensors used in each cast is as follows.

Cast name	Serial number of sensor			Dissolved Oxygen
	Pressure	Temperature	Salinity	
TESS01P	51190	031525	041088	-
TESL01P	42423	031359	041206	-
K1SS01P	51190	031525	041088	-
K1NS01P	51190	031525	041088	-
KN1L01P	42423	031359	041206	-
KN1S01P	51190	031525	041088	-
KN1L02P	42423	031359	041206	-
KN1S02P	51190	031525	041088	-
KN1L03P	42423	031359	041206	-
KN1L04P	42423	031359	041206	-
005L01P	42423	031359	041206	-
005L02P	42423	031359	041206	-
006L01P	42423	031359	041206	-
006S01P	51190	031525	041088	-
006L02P	42423	031359	041206	-
006S02P	51190	031525	041088	-
006L03P	42423	031359	041206	-
006S03P	51190	031525	041088	-
007L01P	42423	031359	041206	-
072S01P	51190	031525	041088	-
008L01P	42423	031359	041206	-
008S01P	51190	031525	041088	-
008L02P	42423	031359	041206	-
008S02P	51190	031525	041088	-
009S01P	51190	031525	041088	-
009L01P	42423	031359	041206	-
009S02P	51190	031525	041088	-
010L01P	42423	031359	041206	-
011L01P	42423	031359	041206	-
011S01P	51190	031525	041088	-
011L02P	42423	031359	041206	-
011S02P	51190	031525	041088	-
011L03P	42423	031359	041206	-
011S03P	51190	031525	041088	-
012S01P	51190	031525	041088	-
012L01P	42423	031359	041206	-
012L02P	42423	031359	041206	-
122L01P	42423	031359	041206	-
013S01P	51190	031525	041088	-
013L01P	42423	031359	041206	-
013S02P	51190	031525	041088	-
013L02P	42423	031359	041206	-
K2SL01P	42423	031359	041206	-
KN2L01P	42423	031359	041206	-
KN2S01P	51190	031525	041088	-
KN2L02P	42423	031359	041206	-
KN2L03P	42423	031359	041206	-
KN2S02P	51190	031525	041088	-
KN2L04P	42423	031359	041206	-
KN2S03P	51190	031525	041088	-
K2NL01P	42423	031359	041206	-
K2NS01P	51190	031525	041088	-
023S01P	51190	031525	041088	-
023L01P	42423	031359	041206	-
023S02P	51190	031525	041088	-
018L01P	42423	031359	041206	-
017L01P	42423	031359	041206	-

Cast name	Serial number of sensor	Pressure	Temperature	Salinity	Dissolved Oxygen
017S01P	51190	031525	041088	-	-
017L02P	42423	031359	041206	-	-
017S02P	51190	031525	041088	-	-
019L01P	42423	031359	041206	-	-
022L01P	42423	031359	041206	-	-
022S01P	51190	031525	041088	-	-
022L02P	42423	031359	041206	-	-
022S02P	51190	031525	041088	-	-
022L03P	42423	031359	041206	-	-
022S03P	51190	031525	041088	-	-
021S03P	51190	031525	041088	-	-
021L01P	42423	031359	041206	-	-
021S02P	51190	031525	041088	-	-
021L02P	42423	031359	041206	-	-
021S01P	51190	031525	041088	-	-
202S01P	51190	031525	041088	-	-
203S01P	51190	031525	041088	-	-
204S02P	51190	031525	041088	-	-
016S01P	51190	031525	041088	-	-
016L01P	42423	031359	041206	-	-
016S02P	51190	031525	041088	-	-
015L02P	42423	031359	041206	-	-
015S01P	51190	031525	041088	-	-
015L01P	42423	031359	041206	-	-
015S02P	51190	031525	041088	-	-
015S03P	51190	031525	041088	-	-
015L03P	42423	031359	041206	-	-
014L01P	42423	031359	041206	-	-
KN3S01P	51190	031525	041088	-	-
KN3L01P	42423	031359	041206	-	-
KN3L02P	42423	031359	041206	-	-
KN3S02P	51190	031525	041088	-	-
KN3L03P	42423	031359	041206	-	-
KN3S04P	51190	031525	041088	-	-

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.

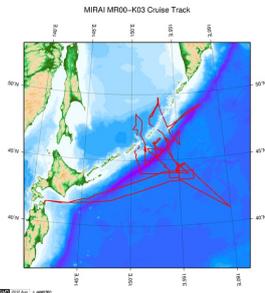
[QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA](#)

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, distance to bottom) in addition 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](#)

MR00-K03

Ship Name: MIRAI
 Period: 2000-05-09 - 2000-06-09
 Chief Scientist: Masashi Kusakabe (JAMSTEC)
 Project Name: [Station KNOT]

Update History

2017-06-22	An observation data was registerd.
2014-08-20	An observation data was registerd.
2014-07-12	An observation data was registerd.
2014-02-06	An observation data was registerd.
2014-02-05	An observation data was registerd.
2013-03-27	An observation data was registerd.
2012-12-25	An observation data was registerd.

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Information of the Ships

- NATSUSHIMA
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- 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 MR00-K03 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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

Cruise ID: [MR00-K03](#)

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

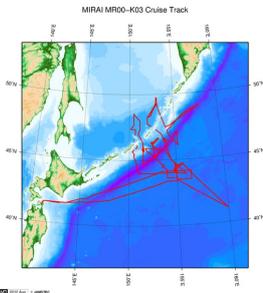
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

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

Sample Program

[ex_read2.f](#)

Related Information



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MR00-K03

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 Period: 2000-05-09 - 2000-06-09
 Chief Scientist: Masashi Kusakabe (JAMSTEC)
 Project Name: [Station KNOT]

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Cruise ID:

Go to a Dive Information

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MIRAI MR00-K03 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

ReadMe **Observation Data** Data Format

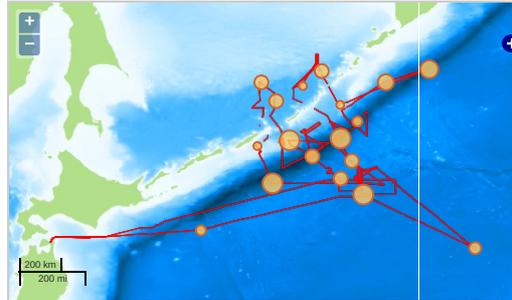
Cruise ID: **MR00-K03**
Conductivity-Temperature-Depth Profiler (CTD): Processed (DMO)-QCed
Data Policy: **JAMSTEC**

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.



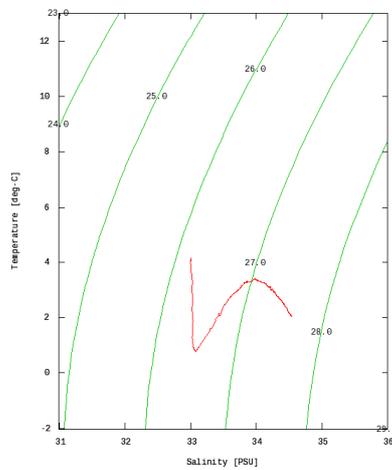
— ... Observation Line — ... Navigation ● ... Observation, Dive Point, Hole Imagery reproduced from ...

Figures

005L01P



MR00-K03: 005L01P
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

- File names**
- 005L01P.dat
 - 005L02P.dat
 - 006L01P.dat
 - 006L02P.dat
 - 006L03P.dat
 - 006S01P.dat
 - 006S02P.dat
 - 006S03P.dat
 - 007L01P.dat
 - 008L01P.dat
 - 008L02P.dat
 - 008S01P.dat
 - 008S02P.dat

File Name
009S01P.dat
009S02P.dat
010L01P.dat
011L01P.dat
011L02P.dat
011L03P.dat
011S01P.dat
011S02P.dat
011S03P.dat
012L01P.dat
012L02P.dat
012S01P.dat
013L01P.dat
013L02P.dat
013S01P.dat
013S02P.dat
014L01P.dat
015L01P.dat
015L02P.dat
015L03P.dat
015S01P.dat
015S02P.dat
015S03P.dat
016L01P.dat
016S01P.dat
016S02P.dat
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023L01P.dat
023S01P.dat
023S02P.dat
072S01P.dat
122L01P.dat
202S01P.dat
203S01P.dat
204S02P.dat
K1NS01P.dat
K1SS01P.dat
K2NL01P.dat
K2NS01P.dat
K2SL01P.dat
KN1L01P.dat
KN1L02P.dat
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KN1L04P.dat
KN1S01P.dat
KN1S02P.dat
KN2L01P.dat
KN2L02P.dat
KN2L03P.dat
KN2L04P.dat
KN2S01P.dat
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KN2S03P.dat
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KN3S02P.dat
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TESS01P.dat
ex_read2.f (Sample Program)

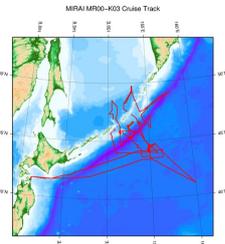
● Observation List
The list of observation is shown as follows.

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

Observation	Time and Date	Lat	Long
005L02P	2000-05-14 18:48	44.0010	150.9986
006L01P	2000-05-15 02:12	44.7500	150.7501
006L02P	2000-05-15 04:58	44.7501	150.7528
006L03P	2000-05-15 09:49	44.7620	150.7588
006S01P	2000-05-15 04:08	44.7473	150.7526
006S02P	2000-05-15 06:43	44.7450	150.7431
006S03P	2000-05-15 13:31	44.7470	150.7591
007L01P	2000-05-15 23:56	45.6625	150.3300
008L01P	2000-05-16 22:57	48.4971	150.5018
008L02P	2000-05-17 01:34	48.4958	150.5075
008S01P	2000-05-17 00:30	48.4981	150.5043
008S02P	2000-05-17 03:34	48.4950	150.5060
009L01P	2000-05-17 10:14	47.6650	151.1565
009S01P	2000-05-17 08:30	47.6635	151.1616
009S02P	2000-05-17 12:51	47.6706	151.1655
010L01P	2000-05-18 23:40	45.9163	151.7493
011L01P	2000-05-19 03:48	45.5573	152.2018
011L02P	2000-05-19 05:17	45.5555	152.1960
011L03P	2000-05-19 09:40	45.5503	152.2005
011S01P	2000-05-19 04:34	45.5533	152.1953
011S02P	2000-05-19 06:58	45.5495	152.1978
011S03P	2000-05-19 13:05	45.5500	152.2005
012L01P	2000-05-20 03:04	45.1985	152.7513
012L02P	2000-05-21 08:32	45.1986	152.7490
012S01P	2000-05-19 22:49	45.2001	152.7504
013L01P	2000-05-22 01:27	44.2160	154.0048
013L02P	2000-05-22 06:22	44.2238	154.0095
013S01P	2000-05-22 00:38	44.2156	154.0031
013S02P	2000-05-22 03:37	44.2166	154.0056
014L01P	2000-06-05 01:13	44.9990	154.4983
015L01P	2000-06-04 10:22	46.0013	153.9990
015L02P	2000-06-04 08:50	46.0036	153.9971
015L03P	2000-06-04 15:41	45.9998	153.9928
015S01P	2000-06-04 09:38	46.0010	154.0015
015S02P	2000-06-04 11:52	45.9986	154.0023
015S03P	2000-06-04 12:44	45.9990	154.0016
016L01P	2000-06-03 23:29	46.7491	153.6151
016S01P	2000-06-03 21:26	46.7501	153.6188
016S02P	2000-06-04 03:00	46.7520	153.6140
017L01P	2000-05-31 05:15	48.9991	153.1683
017L02P	2000-05-31 06:59	49.0001	153.1653
017S01P	2000-05-31 06:10	49.0011	153.1651
017S02P	2000-05-31 09:19	49.0001	153.1656
018L01P	2000-05-30 10:17	48.3333	152.3356
019L01P	2000-05-31 18:32	47.4963	153.9855
021L01P	2000-06-02 03:51	48.5031	155.9988
021L02P	2000-06-02 07:48	48.5000	155.9980
021S01P	2000-06-02 10:57	48.5035	155.9988
021S02P	2000-06-02 05:20	48.5000	156.0008
021S03P	2000-06-02 03:10	48.5018	155.9958
022L01P	2000-06-01 09:30	49.0785	157.9126
022L02P	2000-06-01 10:41	49.0840	157.9170
022L03P	2000-06-01 14:01	49.0843	157.9123
022S01P	2000-06-01 10:20	49.0858	157.9156
022S02P	2000-06-01 12:16	49.0805	157.9076
022S03P	2000-06-01 18:10	49.0840	157.9165
023L01P	2000-05-27 08:31	41.1165	159.9398
023S01P	2000-05-27 07:50	41.1171	159.9398
023S02P	2000-05-27 12:09	41.1175	159.9421
072S01P	2000-05-16 09:33	47.3561	150.6508
122L01P	2000-05-21 11:05	44.8653	153.1810
202S01P	2000-06-02 23:31	46.5673	154.6305
203S01P	2000-06-03 01:51	46.7571	154.7435
204S02P	2000-06-03 07:21	47.1656	155.2495
K1NS01P	2000-05-11 06:58	44.4995	155.0000
K1SS01P	2000-05-11 01:14	43.5006	155.0045
K2NL01P	2000-05-24 21:49	44.5181	154.9953
K2NS01P	2000-05-25 01:19	44.5000	155.0020
K2SL01P	2000-05-22 16:29	43.5008	154.9990
KN1L01P	2000-05-11 10:18	44.0000	154.9985
KN1L02P	2000-05-11 12:03	44.0008	154.9976
KN1L03P	2000-05-11 23:54	44.0151	154.9845
KN1L04P	2000-05-12 01:15	44.0220	154.9379
KN1S01P	2000-05-11 11:09	43.9993	154.9995
KN1S02P	2000-05-11 15:54	44.0008	154.9988
KN2L01P	2000-05-22 21:55	44.0015	154.9983
KN2L02P	2000-05-23 04:13	44.0015	154.9985
KN2L03P	2000-05-23 08:28	44.0006	154.9990
KN2L04P	2000-05-23 12:18	44.0105	154.9988
KN2S01P	2000-05-23 01:55	44.0016	155.0013
KN2S02P	2000-05-23 09:20	44.0010	154.9981

Observation	Time and Date	Lat. (°N)	Lon. (°E)
KN3S03P	2000-05-23 16:03	43.9938	155.0051
KN3L01P	2000-06-05 16:15	44.0015	154.9946
KN3L02P	2000-06-05 22:57	43.9953	155.0023
KN3L03P	2000-06-06 02:31	43.9916	154.9941
KN3S01P	2000-06-05 15:49	44.0023	154.9896
KN3S02P	2000-06-06 01:19	43.9920	154.9940
KN3S04P	2000-06-06 04:24	43.9978	154.9853
TESL01P	2000-05-10 01:08	41.9096	147.8363
TESS01P	2000-05-09 23:56	41.9105	147.8345

Related Information



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MR00-K03

Ship Name: MIRAI
 Period: 2000-05-09 - 2000-06-09
 Chief Scientist: Masashi Kusakabe (JAMSTEC)
 Project Name: [Station KNOT]

Update History

2017-06-22	An observation data was registered.
2014-08-20	An observation data was registered.
2014-07-12	An observation data was registered.
2014-02-06	An observation data was registered.
2014-02-05	An observation data was registered.
2013-03-27	An observation data was registered.
2012-12-25	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

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Go to a Dive Information

Dive ID:

