

MIRAI MR08-02 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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

Cruise ID: [MR08-02](#)

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/MR08-02_all.pdf

[For Using Data](#)

Principal Investigator

Data Management Office

Use Constraints

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

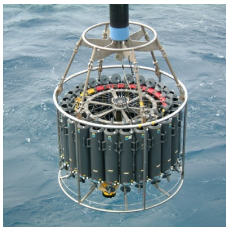
Data Citation

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

Instrument

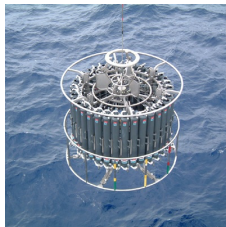
Instrument:

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



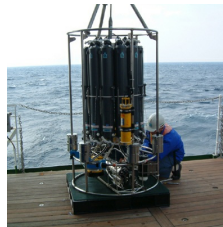
Instrument:

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



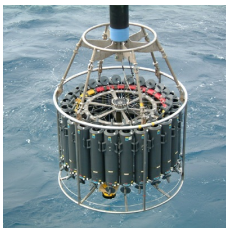
Instrument:

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 MR08-02 cruise are presented in "System".

The following software, developed and supplied by the Sea-Bird Electronics, Inc., was used in MR08-02.

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 : 79511

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 : 031359

Measurement range : -5.0 to +35degC

Accuracy : 0.001degC

Resolution : 0.0002degC

• Salinity sensor

Model : SBE4, Sea-Bird Electronics, Inc.

Serial number : 043036

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 : 430394

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
P1M001	79511	031359	043036	430394
P2M001	79511	031359	043036	430394
P3M001	79511	031359	043036	430394
P4M001	79511	031359	043036	430394
P4M002	79511	031359	043036	430394
P4M003	79511	031359	043036	430394
P4M004	79511	031359	043036	430394
P4M005	79511	031359	043036	430394
P4M006	79511	031359	043036	430394
P4M007	79511	031359	043036	430394
P4M008	79511	031359	043036	430394
P4M009	79511	031359	043036	430394
P4M010	79511	031359	043036	430394
P4M011	79511	031359	043036	430394
P4M012	79511	031359	043036	430394
P4M013	79511	031359	043036	430394
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P4M017	79511	031359	043036	430394
P4M018	79511	031359	043036	430394
P4M019	79511	031359	043036	430394
P4M020	79511	031359	043036	430394
P4M021	79511	031359	043036	430394
P4M022	79511	031359	043036	430394
P4M023	79511	031359	043036	430394
P4M024	79511	031359	043036	430394
P4M025	79511	031359	043036	430394
P4M026	79511	031359	043036	430394
P4M027	79511	031359	043036	430394
P4M028	79511	031359	043036	430394
P4M029	79511	031359	043036	430394
P4M030	79511	031359	043036	430394
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P4M039	79511	031359	043036	430394
P4M040	79511	031359	043036	430394
P4M041	79511	031359	043036	430394
P4M042	79511	031359	043036	430394
P4M043	79511	031359	043036	430394
P4M044	79511	031359	043036	430394
P4M045	79511	031359	043036	430394
P4M046	79511	031359	043036	430394
P4M047	79511	031359	043036	430394
P4M048	79511	031359	043036	430394
P4M049	79511	031359	043036	430394
P4M050	79511	031359	043036	430394
P4M051	79511	031359	043036	430394
P4M052	79511	031359	043036	430394
P4M053	79511	031359	043036	430394
P4M054	79511	031359	043036	430394
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P4M059	79511	031359	043036	430394
P4M060	79511	031359	043036	430394
P4M061	79511	031359	043036	430394
P4M062	79511	031359	043036	430394
P4M063	79511	031359	043036	430394
P4M064	79511	031359	043036	430394
P4M065	79511	031359	043036	430394

Cast name	Serial number of sensor	Pressure	Temperature	Salinity	Dissolved Oxygen
P4M066	79511	031359	043036	430394	
P4M067	79511	031359	043036	430394	
P4M068	79511	031359	043036	430394	
P4M069	79511	031359	043036	430394	
P4M070	79511	031359	043036	430394	
P4M071	79511	031359	043036	430394	
P4M072	79511	031359	043036	430394	
P4M073	79511	031359	043036	430394	
P4M074	79511	031359	043036	430394	
P4M074b	79511	031359	043036	430394	
P4M075	79511	031359	043036	430394	
P4M076	79511	031359	043036	430394	
P4M077	79511	031359	043036	430394	
P4M078	79511	031359	043036	430394	
P4M079	79511	031359	043036	430394	
P4M080	79511	031359	043036	430394	
P4M081	79511	031359	043036	430394	
P4M082	79511	031359	043036	430394	
P4M083	79511	031359	043036	430394	
P4M084	79511	031359	043036	430394	
P4M085	79511	031359	043036	430394	
P4M086	79511	031359	043036	430394	
P4M087	79511	031359	043036	430394	
P4M088	79511	031359	043036	430394	
P4M089	79511	031359	043036	430394	
P4M090	79511	031359	043036	430394	
P4M091	79511	031359	043036	430394	
P4M092	79511	031359	043036	430394	
P4M093	79511	031359	043036	430394	
P4M094	79511	031359	043036	430394	
P4M095	79511	031359	043036	430394	
P4M096	79511	031359	043036	430394	

Calibration Information

Calibration Information is as follows.

Calibration Information

Data processing

(1) Data processing sequence for SEASOFT is as follows;

command	function
datcnv	Convert raw data to engineering units, and store converted data in file.
alignctd	Align data relative to pressure(typically used for conductivity, temperature, and oxygen).
wildedit	Mark a data value with badflag to eliminate wild points.
celltm	Perform conductivity thermal mass correction.
filter	Low-pass filter columns of data.
wfilter	Median filter removes spikes of fluorometer data.
section	Extract rows of data from file.
loopedit	Mark a scan with badflag if scan fails pressure reversal or minimum velocity tests.
derive	Calculate oxygen. (with oxygen sensor)
binavg	Average data, basing bins on pressure, depth, scan number, or time range.
derive	Calculate salinity, density, etc..
split	Split data in file into upcast and downcast files.

(2) Quality control

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

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

Please see the site of NODC of the following link for quality control procedure in detail.

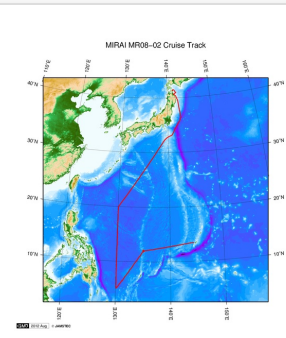
QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA

In addition, an abnormal value is identified by a visual check, and the data after visual QC is released.

Note

(1) In this cruise, there is extra data (fluorescence intensity, transmittance, distance to bottom) in additional to temperature, salinity, dissolved oxygen that has been opened to the public. Please contact us from "Contact Us" above if necessary.

Related Information



MR08-02
Ship Name: MIRAI
Period: 2008-05-26 - 2008-06-30
Chief Scientist: Kunio Yoneyama (JAMSTEC)
Project Name: [MJO Research]
Proposal ▶ Observational Study on the Air-Sea Interaction in the Tropical Western Pacific Ocean
Title:

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Update History

2017-06-22	An observation data was registerd.
2014-07-31	An observation data was registerd.
2014-02-15	An observation data was registerd.
2014-02-13	An observation data was registerd.
2013-03-26	An observation data was registerd.
2012-10-27	An observation data was registerd.

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Cruise ID:

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MIRAI MR08-02 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-06-22

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Cruise ID: [MR08-02](#)

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

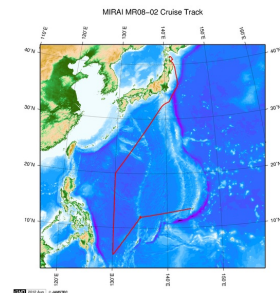
QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure, additionally visually checked. Please see the site of NODC of the following link for quality control procedure.

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

Sample Program

[ex_read2.f](#)

Related Information



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MR08-02

Ship Name: MIRAI

Period: 2008-05-26 - 2008-06-30

Chief Scientist: Kunio Yoneyama (JAMSTEC)

Project Name: [MJO Research]

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

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Last Modified: 2017-06-22

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Cruise ID: **MR08-02**

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

Data Policy: **JAMSTEC**

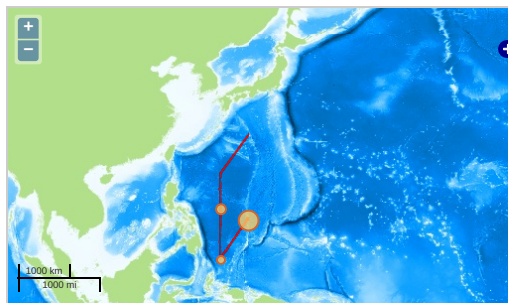
Observation Items: Pressure, Temperature, Salinity, Dissolved oxygen

Science Keywords:

OCEANS > OCEAN CHEMISTRY > OXYGEN
OCEANS > OCEAN > WATER
TEMPERATURE TEMPERATURE
OCEANS > SALINITY/DENSITY > SALINITY

Observation Map

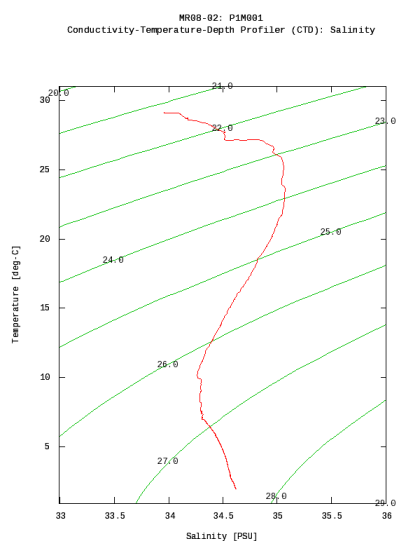
1. Clicking the icon displays a balloon with observation information.
2. Then click the observation name, figures will be displayed.



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

Figures

P1M001



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

<input type="checkbox"/>	P1M001.dat
<input type="checkbox"/>	P2M001.dat
<input type="checkbox"/>	P3M001.dat
<input type="checkbox"/>	P4M001.dat
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<input type="checkbox"/>	P4M009.dat
<input type="checkbox"/>	P4M010.dat

File Name
P4M012.dat
P4M013.dat
P4M014.dat
P4M015.dat
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P4M018.dat
P4M019.dat
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P4M090.dat
P4M091.dat
P4M092.dat

File names			
P4M094.dat			
P4M095.dat			
P4M096.dat			
ex_read2.f (Sample Program)			
● Observation List			
The list of observation is shown as follows.			
Observation	Time and Date	Lat. [°]	Lon. [°]
P1M001	2008-06-02 01:34	14.0023	130.1003
P2M001	2008-06-02 16:20	11.0206	130.0980
P3M001	2008-06-03 20:41	4.9980	130.1008
P4M001	2008-06-05 17:23	11.9991	134.9981
P4M002	2008-06-05 23:36	11.9993	135.0003
P4M003	2008-06-06 05:24	12.0001	134.9981
P4M004	2008-06-06 11:23	12.0005	135.0001
P4M005	2008-06-06 17:27	11.9983	134.9991
P4M006	2008-06-06 20:28	12.0000	134.9965
P4M007	2008-06-06 23:29	11.9993	134.9988
P4M008	2008-06-07 02:25	12.0008	135.0011
P4M009	2008-06-07 05:28	11.9993	134.9986
P4M010	2008-06-07 08:25	11.9995	135.0000
P4M011	2008-06-07 11:28	11.9990	134.9991
P4M012	2008-06-07 14:26	11.9995	135.0001
P4M013	2008-06-07 17:32	11.9988	134.9988
P4M014	2008-06-07 23:26	11.9985	134.9983
P4M015	2008-06-08 05:28	12.0100	134.9980
P4M016	2008-06-08 11:26	12.0006	135.0003
P4M017	2008-06-08 17:25	11.9965	134.9981
P4M018	2008-06-08 20:27	11.9953	134.9930
P4M019	2008-06-08 23:26	11.9983	135.0043
P4M020	2008-06-09 02:26	11.9978	134.9991
P4M021	2008-06-09 05:24	11.9978	135.0021
P4M022	2008-06-09 08:23	11.9996	135.0003
P4M023	2008-06-09 11:22	12.0048	135.0026
P4M024	2008-06-09 14:21	11.9988	135.0015
P4M025	2008-06-09 17:26	11.9983	135.0015
P4M026	2008-06-09 23:26	11.9976	135.0000
P4M027	2008-06-10 05:24	12.0000	134.9995
P4M028	2008-06-10 11:24	11.9966	134.9975
P4M029	2008-06-10 17:26	11.9996	135.0013
P4M030	2008-06-10 23:26	11.9986	135.0011
P4M031	2008-06-11 05:27	12.0005	134.9991
P4M032	2008-06-11 11:24	11.9996	135.0016
P4M033	2008-06-11 17:26	11.9993	135.0006
P4M034	2008-06-11 23:26	11.9975	134.9998
P4M035	2008-06-12 05:25	11.9981	134.9985
P4M036	2008-06-12 11:23	12.0001	134.9995
P4M037	2008-06-12 17:26	11.9988	134.9993
P4M038	2008-06-12 23:27	11.9983	135.0008
P4M039	2008-06-13 05:26	11.9995	135.0003
P4M040	2008-06-13 11:25	11.9955	135.0013
P4M041	2008-06-13 17:25	11.9985	135.0000
P4M042	2008-06-13 23:26	11.9998	135.0006
P4M043	2008-06-14 05:24	12.0000	135.0000
P4M044	2008-06-14 11:23	11.9993	134.9988
P4M045	2008-06-14 17:26	12.0005	134.9996
P4M046	2008-06-14 23:25	11.9988	135.0004
P4M047	2008-06-15 05:24	11.9995	134.9988
P4M048	2008-06-15 11:23	11.9975	134.9996
P4M049	2008-06-15 17:25	11.9996	135.0003
P4M050	2008-06-15 23:26	11.9990	134.9996
P4M051	2008-06-16 05:25	11.9988	135.0008
P4M052	2008-06-16 11:22	11.9991	135.0000
P4M053	2008-06-16 17:26	12.0000	135.0001
P4M054	2008-06-16 23:25	11.9990	135.0001
P4M055	2008-06-17 05:25	11.9978	135.0000
P4M056	2008-06-17 11:22	12.0026	134.9958
P4M057	2008-06-17 17:25	12.0023	135.0006
P4M058	2008-06-17 23:26	12.0269	134.9944
P4M059	2008-06-18 05:22	11.9958	135.0003
P4M060	2008-06-18 11:25	12.0011	134.9906
P4M061	2008-06-18 17:24	11.9991	134.9938
P4M062	2008-06-18 23:24	12.0001	134.9995
P4M063	2008-06-19 05:24	12.0015	135.0050
P4M064	2008-06-19 11:24	12.0006	134.9980
P4M065	2008-06-19 17:25	11.9996	134.9963
P4M066	2008-06-19 23:27	11.9998	134.9973
P4M067	2008-06-20 05:26	12.0023	134.9821
P4M068	2008-06-20 11:22	12.0006	134.9838
P4M069	2008-06-20 17:27	12.0003	134.9985
P4M070	2008-06-20 23:45	11.9920	135.0273
P4M071	2008-06-21 05:22	11.9986	135.0000

Observation	Time and Date	Lat. (N)	Lon. (E)
P4M072	2008-06-21 11:27	11.9985	135.0001
P4M073	2008-06-21 17:25	12.0016	135.0020
P4M074b	2008-06-21 23:26	12.0000	135.0006
P4M075	2008-06-22 05:18	11.9971	134.9996
P4M076	2008-06-22 11:20	12.0006	134.9990
P4M077	2008-06-22 17:27	11.9990	134.9988
P4M078	2008-06-22 23:25	11.9988	134.9980
P4M079	2008-06-23 05:23	12.0000	134.9996
P4M080	2008-06-23 11:22	11.9996	134.9991
P4M081	2008-06-23 17:25	11.9988	135.0013
P4M082	2008-06-23 23:26	11.9978	135.0003
P4M083	2008-06-24 05:24	12.0005	134.9986
P4M084	2008-06-24 11:22	11.9993	135.0001
P4M085	2008-06-24 17:26	11.9961	134.9981
P4M086	2008-06-24 23:25	11.9988	134.9993
P4M087	2008-06-25 05:26	12.0001	134.9966
P4M088	2008-06-25 11:22	12.0000	135.0003
P4M089	2008-06-25 17:25	11.9991	135.0003
P4M090	2008-06-25 23:25	12.0005	135.0000
P4M091	2008-06-26 05:20	12.0023	135.0003
P4M092	2008-06-26 11:20	12.0001	135.0018
P4M093	2008-06-26 17:27	11.9981	134.9993
P4M094	2008-06-26 23:26	11.9978	134.9990
P4M095	2008-06-27 05:20	11.9983	134.9995
P4M096	2008-06-27 11:27	11.9995	134.9973

Related Information

MR08-02
Ship Name: MIRAI
Period: 2008-05-26 - 2008-06-30
Chief Scientist: Kunio Yoneyama (JAMSTEC)
Project Name: [MJO Research]
Proposal ▶ Observational Study on the Air-Sea Interaction in the Tropical Western Pacific Ocean
Title:

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Update History

2017-06-22	An observation data was registered.
2014-07-31	An observation data was registered.
2014-02-15	An observation data was registered.
2014-02-13	An observation data was registered.
2013-03-26	An observation data was registered.
2012-10-27	An observation data was registered.

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Detailed Search

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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)
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