

## KAIYO KY97-09 Leg2 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2016-04-07

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

Cruise ID: [KY97-09 Leg2](#)

Conductivity-Temperature-Depth Profiler (CTD): Processed (PI)

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/KY97-09\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/KY97-09_all.pdf)

### For Using Data

#### Principal Investigator

Temperature : Yuji Kashino (JAMSTEC)

Salinity : Yuji Kashino (JAMSTEC)

JAMSTEC / BPPT joint cruise in the Indonesian waters.

#### Use Constraints

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

#### Data Citation

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

### Overview

Please see the [cruise report](#)(PDF file) for details of data.

Readme for CTD data

Nov.30, 2005

by Yuji Kashino

Sea-Bird Electronics CTD (SBE9/11) and a winch (Tsurumi Seiki Co. Ltd.) with a 10.6mm armored cable was used during the cruises. The CTD casts were usually carried out from sea surface to 1,000m depth at descent rates of 1 m/s to 1.5 m/s and a sampling rate of 24 Hz. On each cast, we stopped a CTD fish at around 10 m depth until the CTD pump could be activated in order to remove air bubbles in the T-C sensor of the CTD.

Two temperature sensors, two conductivity sensors, and one dissolved oxygen sensor were installed in the CTD. We usually processed the data from primary temperature and conductivity sensors.

The sensor calibrations were performed before and after cruises. Temperature and conductivity sensors were calibrated by the manufacturer (Sea-Bird Electronics Inc.), and pressure sensors by technicians of Nippon Marine Enterprise Co Ltd. or Marine Works Japan Ltd. The calibration results suggested that sensor drifts were less than the accuracy required for this project (temperature, 0.01K; salinity, 0.01PSU; pressure, 1dbar). Therefore, we do not correct sensor drift. We just removed large noise and created a 1 dbar-averaged data set. We also checked conductivity sensor performance using Autosal during the cruises.

Although the dissolved oxygen sensor had been calibrated annually by the manufacturer, its data had large errors. We think that we may be able to use CTD DO data if we correct it using DO values from adequately sampled water. Therefore, we do not correct CTD DO values and just flag the non-calibrated data as questionable.

Data format is almost the same as that defined in the WOCE Hydrographic Programme (WHP) considering data processing as follows:

1st line:

Expedition designation (country code(49), ship code(XK), cruise/leg designation), line name and date(month/day/year).

format(9x,a10,12x,a5,6x,3i2)

2nd line:

Station number and the number of records.

format(7x,i3,12x,i5)

3rd line:

date(day/month/year), time(hour/minute) and location(latitude/longitude, N/S: North/South, E/W: East/West).

format(i2,1x,a3,1x,i4,1x,i2,1x,i2,2x,i2,1x,f5,2,1x,a1,1x,i3,1x,f5,1,1x,a1)

4th line:

Headers for data columns.

5th line:

Units headers for data columns.

Pressure: deci-bar,

Temperature: degree (ITS-90),

Salinity: Practical Salinity Unit,

Dissolved oxygen: Milli-liter/liter

6th line:

Separation

7th line-End of file:

Data lines (pressure, in-situ temperature, salinity and dissolved oxygen). Pressure interval is one deci-bar. Numbers of observation are -9.

Data flag are always as follows:

Pressure: 2 (acceptable measurement)

Temperature: 2

Salinity: 2

Oxygen: 1 (non-calibrated)

format(f8,1,2f8,2,f8,2)

Following is a sample FORTRAN program.

```

c
c Sample program
c
      character expocode*10,lineid*5,NS*1,EW*2,cmonth*3,dummy*48
      dimension p(5000),t(5000),s(5000),o(5000)
c
      open(10,file='F:TOCSKy0111CTDK0111001.CTD',status='old')
c
      read(10,101) expocode,lineid,imo,idy,iyr
101 format(9x,a10,12x,a5,6x,3i2)
      write(6,201) expocode,lineid,imo,idy,iyr
201 format('EXPOCODE='a10,1x,'Line id='a5,1x,'Date=',i2,'/',i2,'/',i2)
c
      read(10,102) istnnbr,irec
102 format(7x,i3,12x,i5)
      write(6,202) istnnbr,irec
202 format('Strn No.=',i3,1x,'No of records=',i5)
c
      read(10,103) idy,cmon,iyr,ihr,imi,ilat,flat,NS,ilon,flon,EW
103 format(i2,1x,a3,1x,i4,1x,i2,1x,i2,2x,i2,1x,f5.2,1x,a1,1x,i3,
      @ 1x,f5.1,1x,a1)
      write(6,203) idy,cmon,iyr,ihr,imi,ilat,flat,NS,ilon,flon,EW
203 format('Date=',i2,'/',a3,'/',i4,1x,'Time='i2,':',i2,1x,
      @ 'Lat=' ,i3,'-',f5.2,a1,1x,'Lon=' ,i3,'-',f5.2,a1)
c
      read(10,'(a)') dummy
      read(10,'(a)') dummy
      read(10,'(a)') dummy
c
      do 10 n=1,irec
          read(10,104) p(n),t(n),s(n),o(n)
104 format(f8.1,2f8.3,f8.2)
          if( n.eq.1 .or. n.eq.irec ) then
              write(6,204) p(n),t(n),s(n),o(n)
204 format('P=',f8.1,1x,'T=',f8.3,1x,'S=',f8.3,1x,'O=',f8.2)
          endif
      10 continue
      close(10)
      stop
      end

```

### Others

Quality flags

Quality flags definitions for CTD/XCTD data

Byte Value	Definition
1	Not calibrated with water samples.
2	Acceptable measurement.
3	Qwuestionable measurement.
4	Bad measurement.
5	Not reported.
6	Interpolated value.
7 - 8	Not assigned for CTD/XCTD data.
9	Not sampled.

Each CTD/XCTD parameter has two quality bytes, or flags, associated with it in two separate quality words. The definitions apply both to the analyst and the DQE quality words..

### Related Information



**KY97-09 Leg2**  
 Ship Name: KAIYO  
 Period: 1997-08-16 - 1997-09-08  
 Chief Scientist: Kentaro Ando (JAMSTEC)

### Update History

2016-04-07	An observation data was registerd.
2013-01-25	An observation data was registerd.

Application for Data and  
Samples  
Data Policy

What's New  
Update History  
Feeds

Data  
Map Search  
Data Tree  
Detailed Search

YOKOSUKA  
MIRAI  
KAIREI  
CHIKYU  
KAIMEI  
SHINSEI MARU  
HAKUHO MARU

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 Dive Information

Dive ID:

Copyright 2011 Japan Agency for Marine-Earth Science and  
Technology



**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

## KAIYO KY97-09 Leg2 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2016-04-07

[ReadMe](#)   [Observation Data](#)

Cruise ID: [KY97-09 Leg2](#)

Conductivity-Temperature-Depth Profiler (CTD): Processed (PI)

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/KY97-09\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/KY97-09_all.pdf)

### For Using Data

#### Principal Investigator

Temperature : Yuji Kashino (JAMSTEC)

Salinity : Yuji Kashino (JAMSTEC)

JAMSTEC / BPPT joint cruise in the Indonesian waters.

#### Use Constraints

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

#### Data Citation

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

### Overview

Please see the [cruise report](#)(PDF file) for details of data.

Readme for CTD data

Nov.30, 2005

by Yuji Kashino

Sea-Bird Electronics CTD (SBE9/11) and a winch (Tsurumi Seiki Co. Ltd.) with a 10.6mm armored cable was used during the cruises. The CTD casts were usually carried out from sea surface to 1,000m depth at descent rates of 1 m/s to 1.5 m/s and a sampling rate of 24 Hz. On each cast, we stopped a CTD fish at around 10 m depth until the CTD pump could be activated in order to remove air bubbles in the T-C sensor of the CTD.

Two temperature sensors, two conductivity sensors, and one dissolved oxygen sensor were installed in the CTD. We usually processed the data from primary temperature and conductivity sensors.

The sensor calibrations were performed before and after cruises. Temperature and conductivity sensors were calibrated by the manufacturer (Sea-Bird Electronics Inc.), and pressure sensors by technicians of Nippon Marine Enterprise Co Ltd. or Marine Works Japan Ltd. The calibration results suggested that sensor drifts were less than the accuracy required for this project (temperature, 0.01K; salinity, 0.01PSU; pressure, 1dbar). Therefore, we do not correct sensor drift. We just removed large noise and created a 1 dbar-averaged data set. We also checked conductivity sensor performance using Autosal during the cruises.

Although the dissolved oxygen sensor had been calibrated annually by the manufacturer, its data had large errors. We think that we may be able to use CTD DO data if we correct it using DO values from adequately sampled water. Therefore, we do not correct CTD DO values and just flag the non-calibrated data as questionable.

Data format is almost the same as that defined in the WOCE Hydrographic Programme (WHP) considering data processing as follows:

1st line:

Expedition designation (country code(49), ship code(XK), cruise/leg designation), line name and date(month/day/year).

format(9x,a10,12x,a5,6x,3i2)

2nd line:

Station number and the number of records.

format(7x,i3,12x,i5)

3rd line:

date(day/month/year), time(hour/minute) and location(latitude/longitude, N/S: North/South, E/W: East/West).

format(i2,1x,a3,1x,i4,1x,i2,1x,i2,2x,i2,1x,f5,2,1x,a1,1x,i3,1x,f5,1,1x,a1)

4th line:

Headers for data columns.

5th line:

Units headers for data columns.

Pressure: deci-bar,

Temperature: degree (ITS-90),

Salinity: Practical Salinity Unit,

Dissolved oxygen: Milli-liter/liter

6th line:

Separation

7th line-End of file:

Data lines (pressure, in-situ temperature, salinity and dissolved oxygen). Pressure interval is one deci-bar. Numbers of observation are -9.

Data flag are always as follows:

Pressure: 2 (acceptable measurement)

Temperature: 2

Salinity: 2

Oxygen: 1 (non-calibrated)

format(f8,1,2f8,2,f8,2)

Following is a sample FORTRAN program.

```

c
c Sample program
c
      character expocode*10,lineid*5,NS*1,EW*2,cmonth*3,dummy*48
      dimension p(5000),t(5000),s(5000),o(5000)
c
      open(10,file='F:TOCSKy0111CTDK0111001.CTD',status='old')
c
      read(10,101) expocode,lineid,imo,idy,iyr
101 format(9x,a10,12x,a5,6x,3i2)
      write(6,201) expocode,lineid,imo,idy,iyr
201 format('EXPOCODE='a10,1x,'Line id='a5,1x,'Date=',i2,'/',i2,'/',i2)
c
      read(10,102) istnnbr,irec
102 format(7x,i3,12x,i5)
      write(6,202) istnnbr,irec
202 format('Strn No.=',i3,1x,'No of records=',i5)
c
      read(10,103) idy,cmon,iyr,ihr,imi,ilat,flat,NS,ilon,flon,EW
103 format(i2,1x,a3,1x,i4,1x,i2,1x,i2,2x,i2,1x,f5.2,1x,a1,1x,i3,
      @ 1x,f5.1,1x,a1)
      write(6,203) idy,cmon,iyr,ihr,imi,ilat,flat,NS,ilon,flon,EW
203 format('Date=',i2,'/',a3,'/',i4,1x,'Time='i2,':',i2,1x,
      @ 'Lat=' ,i3,'-',f5.2,a1,1x,'Lon=' ,i3,'-',f5.2,a1)
c
      read(10,'(a)') dummy
      read(10,'(a)') dummy
      read(10,'(a)') dummy
c
      do 10 n=1,irec
          read(10,104) p(n),t(n),s(n),o(n)
104 format(f8.1,2f8.3,f8.2)
          if( n.eq.1 .or. n.eq.irec ) then
              write(6,204) p(n),t(n),s(n),o(n)
204 format('P=',f8.1,1x,'T=',f8.3,1x,'S=',f8.3,1x,'O=',f8.2)
          endif
      10 continue
      close(10)
      stop
      end

```

### Others

Quality flags

Quality flags definitions for CTD/XCTD data

Byte Value	Definition
1	Not calibrated with water samples.
2	Acceptable measurement.
3	Qwuestionable measurement.
4	Bad measurement.
5	Not reported.
6	Interpolated value.
7 - 8	Not assigned for CTD/XCTD data.
9	Not sampled.

Each CTD/XCTD parameter has two quality bytes, or flags, associated with it in two separate quality words. The definitions apply both to the analyst and the DQE quality words..

### Related Information



**KY97-09 Leg2**  
 Ship Name: KAIYO  
 Period: 1997-08-16 - 1997-09-08  
 Chief Scientist: Kentaro Ando (JAMSTEC)

### Update History

2016-04-07	An observation data was registerd.
2013-01-25	An observation data was registerd.

Application for Data and  
Samples  
Data Policy

What's New  
Update History  
Feeds

Data  
Map Search  
Data Tree  
Detailed Search

YOKOSUKA  
MIRAI  
KAIREI  
CHIKYU  
KAIMEI  
SHINSEI MARU  
HAKUHO MARU

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 Dive Information

Dive ID:

Copyright 2011 Japan Agency for Marine-Earth Science and  
Technology



**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

## KAIYO KY97-09 Leg2 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2016-04-07

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

Cruise ID: [KY97-09 Leg2](#)

Conductivity-Temperature-Depth Profiler (CTD): Processed (PI)

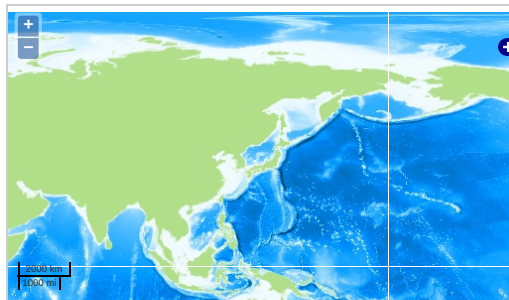
Data Policy: [JAMSTEC](#)

Observation Items: Pressure, Temperature, Salinity, Dissolved oxygen

Science Keywords:

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

### Observation Map



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

Imagery reproduced from ...

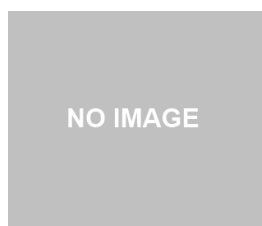
### Data List

[Add to Basket](#)

#### File names

- ☐ K9709023.CTD
- ☐ K9709024.CTD
- ☐ K9709025.CTD
- ☐ K9709026.CTD
- ☐ K9709027.CTD
- ☐ K9709028.CTD
- ☐ K9709029.CTD
- ☐ K9709030.CTD
- ☐ K9709031.CTD
- ☐ K9709032.CTD
- ☐ K9709033.CTD
- ☐ K9709034.CTD
- ☐ K9709035.CTD
- ☐ K9709036.CTD
- ☐ K9709037.CTD
- ☐ K9709038.CTD
- ☐ K9709039.CTD
- ☐ K9709040.CTD
- ☐ K9709041.CTD
- ☐ K9709042.CTD
- ☐ K9709043.CTD
- ☐ K9709044.CTD
- ☐ K9709045.CTD
- ☐ K9709046.CTD
- ☐ K9709047.CTD
- ☐ KY97-09\_leg2.sum

### Related Information



#### KY97-09 Leg2

Ship Name: KAIYO  
Period: 1997-08-16 - 1997-09-08  
Chief Scientist: Kentaro Ando (JAMSTEC)

### Update History

2016-04-07 An observation data was registered.  
2013-01-25 An observation data was registered.

Privacy Policy  
Application for Data and  
Samples  
Data Policy  
  
What's New  
Update History  
Feeds

Amount of Public Info.  
  
Data  
Map Search  
Data Tree  
Detailed Search

KAIYO  
YOKOSUKA  
MIRAI  
KAIREI  
CHIKYU  
KAIMEI  
SHINSEI MARU  
HAKUHO MARU

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

Cruise ID:

Go to a Dive Information

Dive ID:

Copyright 2011 Japan Agency for Marine-Earth Science and Technology



**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