

KAIYO K93-07 Leg1 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2013-01-25

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

 Cruise ID: [K93-07 Leg1](#)

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/K93-07_leg1_all.pdf

For Using Data

Principal Investigator

Temperature : Yuji Kashino (JAMSTEC)

Salinity : Yuji Kashino (JAMSTEC)

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(f8,1,2f8,3,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('Stn 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



K93-07 Leg1
Ship Name: KAIYO
Period: 1993-11-27 - 1993-12-29
Chief Scientist: Yoshifumi Kuroda (JAMSTEC)

Update History

2013-01-25	An observation data was registerd.
------------	------------------------------------

JAMSTEC
Site Policy
Privacy Policy
Application for Data and Samples
Data Policy

Lists
Publication List
Amount of Public Info.
Data
Map Search
Data Tree

Information of the Ships
NATSUSHIMA
KAIYO
YOKOSUKA
MIRAI
KAIREI

Information of the Submersibles
KAIKO
SHINKAI 2000
SHINKAI 6500
DEEP TOW

Go to a Cruise Information

Cruise ID:

Go to a Dive Information

[What's New](#)
[Update History](#)
[Feeds](#)

[Detailed Search](#)

[CHIKYU](#)
[KAIMEI](#)
[SHINSEI MARU](#)
[HAKUHO MARU](#)

[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](#)

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 K93-07 Leg1 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2013-01-25

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

 Cruise ID: [K93-07 Leg1](#)

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/K93-07_leg1_all.pdf

For Using Data

Principal Investigator

Temperature : Yuji Kashino (JAMSTEC)

Salinity : Yuji Kashino (JAMSTEC)

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(f8,1,2f8,3,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('Stn 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	Quwstionable 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



K93-07 Leg1
Ship Name: KAIYO
Period: 1993-11-27 - 1993-12-29
Chief Scientist: Yoshifumi Kuroda (JAMSTEC)

Update History

2013-01-25	An observation data was registerd.
------------	------------------------------------

JAMSTEC
Site Policy
Privacy Policy
Application for Data and Samples
Data Policy

Lists
Publication List
Amount of Public Info.
Data
Map Search
Data Tree

Information of the Ships
NATSUSHIMA
KAIYO
YOKOSUKA
MIRAI
KAIREI

Information of the Submersibles
KAIKO
SHINKAI 2000
SHINKAI 6500
DEEP TOW

Go to a Cruise Information

Cruise ID:

Go to a Dive Information

[What's New](#)
[Update History](#)
[Feeds](#)

[Detailed Search](#)

[CHIKYU](#)
[KAIMEI](#)
[SHINSEI MARU](#)
[HAKUHO MARU](#)

[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](#)

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 K93-07 Leg1 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2013-01-25

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

Cruise ID: **K93-07 Leg1**

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

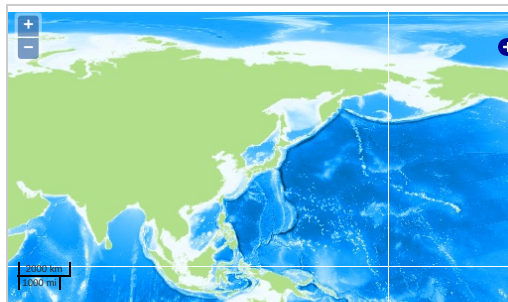
Data Policy: **JAMSTEC**

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 ...

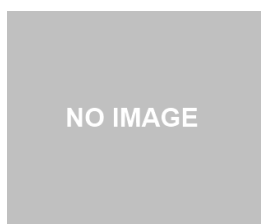
Data List

[Add to Basket](#)

File names

- ☐ K93-07_leg1.sum
- ☐ k9307001.ctd
- ☐ k9307002.ctd
- ☐ k9307003.ctd
- ☐ k9307004.ctd
- ☐ k9307005.ctd
- ☐ k9307006.ctd
- ☐ k9307007.ctd
- ☐ k9307008.ctd
- ☐ k9307009.ctd
- ☐ k9307010.ctd
- ☐ k9307011.ctd
- ☐ k9307012.ctd
- ☐ k9307013.ctd
- ☐ k9307014.ctd
- ☐ k9307015.ctd
- ☐ k9307016.ctd
- ☐ k9307017.ctd
- ☐ k9307018.ctd
- ☐ k9307019.ctd
- ☐ k9307020.ctd
- ☐ k9307021.ctd
- ☐ k9307022.ctd
- ☐ k9307023.ctd
- ☐ k9307024.ctd
- ☐ k9307025.ctd
- ☐ k9307026.ctd
- ☐ k9307027.ctd
- ☐ k9307028.ctd
- ☐ k9307029.ctd

Related Information



K93-07 Leg1

Ship Name: KAIYO
Period: 1993-11-27 - 1993-12-29
Chief Scientist: Yoshifumi Kuroda (JAMSTEC)

Update History

2013-01-25

An observation data was registered.

JAMSTEC

Site Policy

Privacy Policy

Application for Data and Samples

Data Policy

What's New

Update History

Feeds

Lists

Publication List

Amount of Public Info.

Data

Map Search

Data Tree

Detailed Search

Information of the Ships

NATSUSHIMA

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

Go to a Dive Information

Dive ID:



Go

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