

## 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](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/K93-07_leg1_all.pdf)

### **i** 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) istnibr,irec  
102 format(7x,i3,12x,i5)  
write(6,202) istnibr,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,'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	Questionable 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

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

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JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

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Salinity : Yuji Kashino (JAMSTEC)

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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:

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c  
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102 format(7x,i3,12x,i5)  
write(6,202) istnibr,irec  
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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,'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  
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Period: 1993-11-27 - 1993-12-29  
Chief Scientist: Yoshifumi Kuroda (JAMSTEC)

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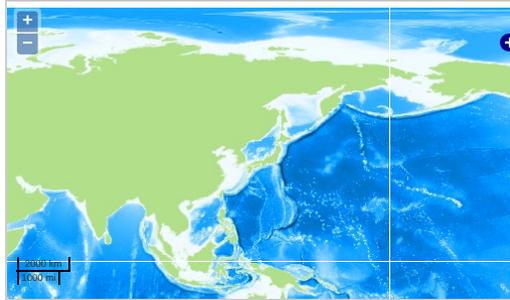
**KAIYO K93-07 Leg1 Conductivity-Temperature-Depth Profiler (CTD)**

Last Modified: 2013-01-25

ReadMe: **Observation Data**

Cruise ID: **K93-07 Leg1**  
 Conductivity-Temperature-Depth Profiler (CTD): Processed (PI)  
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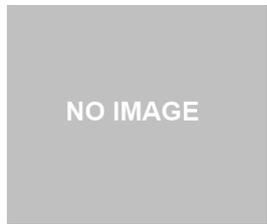
**Observation Map**



**Data List**

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**Related Information**



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