

KAIYO KY99-01 Expendable Conductivity-Temperature-Depth Profiler (XCTD)

Last Modified: 2016-04-07

ReadMe Observation Data

Cruise ID: [KY99-01](#)

Expendable Conductivity-Temperature-Depth Profiler (XCTD): Processed (PI)

Data Policy: [JAMSTEC](#)

Observation Items: Depth, Temperature, Salinity

Science Keywords:

OCEANS > OCEAN TEMPERATURE > WATER TEMPERATURE

OCEANS > SALINITY/DENSITY > SALINITY

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/KY99-01_all.pdf

For Using Data

Principal Investigator

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.

XCTD data in the TOCS project

Oct.6, 2006
by Yuji Kashino

XCTD observations were carried out at some stations because of saving ship-time and to avoid pirates after the KY9901 cruises. For these observations, we used XCTD-1 probes, the data converter, MK-100, and a hand-held launcher made by Tsurumi Seiki Co. Ltd. Temperature and salinity were measured down to 1000m except for some casts. Depth values were calculated using the formula developed by Mizuno and Watanabe (1998).

Data processing was carried out as follows:

- 1) Data was first averaged in 1m bins.
- 2) Considering compatibility with CTD data set, depth values were then converted to pressure values. Then, temperature and salinity values were calculated every 1 dbar by interpolating values of the bins above and below.
- 3) Finally, a data set with the same format as CTD was created.

We checked XCTD performance at st.X029 during KY9901 cruise and X088 during KY9909, deploying more than two XCTD probes and comparing CTD data. The results demonstrated an accuracy of 0.01 K in temperature and 0.01-0.02 PSU in salinity. However, salinity offset with value of +/-0.05PSU was sometimes seen at the deepest layer (1000db). We did not correct this offset. Therefore, when XCTD data is used, please check T-S diagram and compare with climatological data such as World Ocean Atlas.

Data format is almost the same as that of CTD defined in the WOCE Hydrographic Programme (WHP) 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, the number of records, and cast number.
format(7x,i3,12x,i5,9x,i2)

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,
(For compatibility with CTD data set, columns of dissolved oxygen, number of observation per bin, and flags are added.)

6th line:

Separation

7th line-End of file:

Data lines (pressure, in-situ temperature, salinity). Pressure interval is one deci-bar. Data flags are always 2.
format(f8.1,2f8.3)

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)
c
open(10,file='G:TOCSKY0111XCTDK0111001.XCT',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,icast
102 format(7x,i3,12x,i5,9x,i2)
write(6,202) istnibr,irec,icast
202 format('Stn No.='i3,1x,'No of records='i5,1x,'Cast No.='i2)
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)
104 format(f8.1,2f8.3)
if ( n.eq.1 .or. n.eq.irec ) then
write(6,204) p(n),t(n),s(n)
204 format('P='f8.1,1x,'T='f8.3,1x,'S='f8.3)
endif
10 continue
close(10)
stop
end

```

Note

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



KY99-01

Ship Name: KAIYO
 Period: 1999-01-25 - 1999-03-15
 Chief Scientist: Yuji Kashino (JAMSTEC)

Update History

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

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HAKUHO MARU

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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2nd line:

Station number, the number of records, and cast number.
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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)

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write(6,202) istnibr,irec,icast
202 format('Stn No.='i3,1x,'No of records='i5,1x,'Cast No.='i2)
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)
104 format(f8.1,2f8.3)
if ( n.eq.1 .or. n.eq.irec ) then
write(6,204) p(n),t(n),s(n)
204 format('P='f8.1,1x,'T='f8.3,1x,'S='f8.3)
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6K Camera DEEP TOW
6K Sonar DEEP TOW
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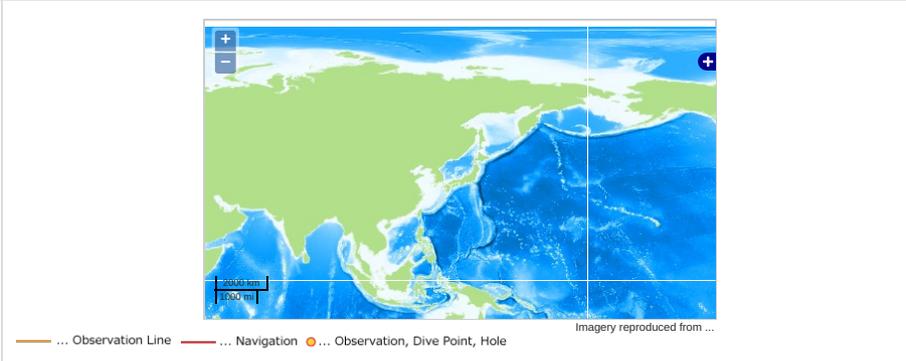
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 TEMPERATURE TEMPERATURE
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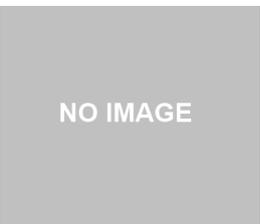
Observation Map



Data List

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|--------------------------|--------------|
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| <input type="checkbox"/> | K9901030.XCT |
| <input type="checkbox"/> | K9901031.XCT |
| <input type="checkbox"/> | KY99-01.sum |

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