KAIYO KY97-09 Leg1 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2013-01-25

ReadMe Observation Data

Cruise ID: **KY97-09 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/KY97-09_all.pdf

> ℹ️ **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

KY97-09 Leg1
Ship Name: KAIYO
Period: 1997-08-03 - 1997-08-15
Chief Scientist: Kunio Yoneyama (JAMSTEC)

Update History

2013-01-25	An observation data was registerd.

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MIRAI
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SHINKAI 6500
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海洋研究開発機構
JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

DARWIN+ Data and Sample Research System for Whole Cruise Information in JAMSTEC

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     @     1x,f5.1,1x,a1)
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203   format('Date=',i2,'/',a3,'/',i4,1x,'Time=',i2,':',i2,1x,
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Period: 1997-08-03 - 1997-08-15
Chief Scientist: Kunio Yoneyama (JAMSTEC)

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OCEANS	> SALINITY/DENSITY	> SALINITY

Observation Map

Imagery reproduced from ...
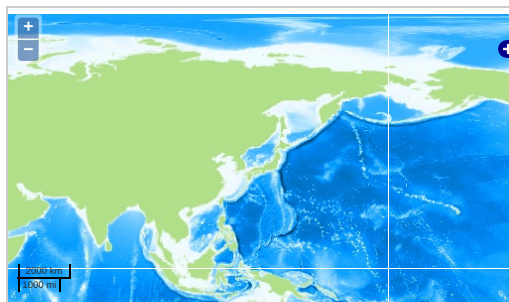
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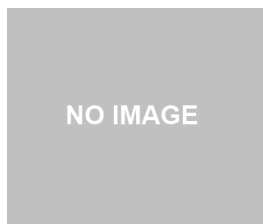
Data List

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☐ **File names**
☐ K9709001.CTD
☐ K9709002.CTD
☐ K9709003.CTD
☐ K9709004.CTD
☐ K9709005.CTD
☐ K9709006.CTD
☐ K9709007.CTD
☐ K9709008.CTD
☐ K9709009.CTD
☐ K9709010.CTD
☐ K9709011.CTD
☐ K9709012.CTD
☐ K9709013.CTD
☐ K9709014.CTD
☐ K9709015.CTD
☐ K9709016.CTD
☐ K9709017.CTD
☐ K9709018.CTD
☐ K9709019.CTD
☐ K9709020.CTD
☐ K9709021.CTD
☐ K9709022.CTD
☐ KY97-09_leg1.sum

Related Information

NO IMAGE

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Period: 1997-08-03 - 1997-08-15
Chief Scientist: Kunio Yoneyama (JAMSTEC)

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