

# CTD - Profiles from R/V Hugh R. Sharp HRS070714AB in the Chesapeake Bay from July 2007 (Assessing Roseobacter activities project)

Website: <https://www.bco-dmo.org/dataset/3489>

Version: 14 June 2011

Version Date: 2011-06-14

## Project

» [Determining growth rates of specific bacterioplankton](#) (Assessing Roseobacter activities)

Contributors	Affiliation	Role
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## Dataset Description

CTD Profile Data - Up/Down Casts

## Methods & Sampling

```
* Sea-Bird SBE 9 Data File:
* FileName = D:\DataCTDCTD001.dat
* Software Version Seasave Win32 V 5.37m
* Temperature SN = 2631
* Conductivity SN = 2603
* Number of Bytes Per Scan = 41
* Number of Voltage Words = 4
* Number of Scans Averaged by the Deck Unit = 1
* Append System Time to Every Scan
* System UpLoad Time = Jul 15 2007 14:39:20
* NMEA Latitude = 38 28.00 N
* NMEA Longitude = 076 23.16 W
* NMEA UTC (Time) = 14:41:45
* Store Lat/Lon Data = Append to Every Scan
** R/V HUGH R. SHARP
** Cruise: 070714AB
** Station: CP
** Latitude: 38 28.00 N
** Longitude: 076 23.16 W
# nquan = 17
# nvalues = 24781
```

```

# units = specified
# name 0 = scan: Scan Count
# name 1 = timeS: Time, Elapsed [seconds]
# name 2 = latitude: Latitude [deg]
# name 3 = longitude: Longitude [deg]
# name 4 = prDM: Pressure, Digiquartz [db]
# name 5 = t090C: Temperature [ITS-90, deg C]
# name 6 = t190C: Temperature, 2 [ITS-90, deg C]
# name 7 = sal00: Salinity [PSU]
# name 8 = sal11: Salinity, 2 [PSU]
# name 9 = density00: Density [density, Kg/m^3]
# name 10 = density11: Density, 2 [density, Kg/m^3]
# name 11 = sbeox0Mm/Kg: Oxygen, SBE 43 [umol/Kg]
# name 12 = v0: Voltage 0
# name 13 = svCM: Sound Velocity [Chen-Millero, m/s]
# name 14 = v4: Voltage 4
# name 15 = sbeox0Mg/L: Oxygen, SBE 43 [mg/l]
# name 16 = flag: 0.000e+00
# span 0 = 1, 24781
# span 1 = 0.000, 1032.500
# span 2 = 38.46666, 38.46678
# span 3 = -76.38620, -76.38600
# span 4 = 1.037, 26.893
# span 5 = 22.8045, 26.2068
# span 6 = 22.8041, 26.1977
# span 7 = 13.2895, 19.0009
# span 8 = 13.2772, 19.0008
# span 9 = 1006.6975, 1012.0166
# span 10 = 1006.7008, 1012.0171
# span 11 = 1.616, 218.869
# span 12 = 0.1197, 0.3687
# span 13 = 1511.78, 1515.16
# span 14 = 1.3223, 3.3114
# span 15 = 0.05226, 7.05122
# span 16 = 0.0000e+00, 0.0000e+00
# interval = seconds: 0.0416667
# start_time = Jul 15 2007 14:39:20
# bad_flag = -9.990e-29
# sensor 0 = Frequency 0 temperature, primary, 2631, 12-sep-06
# sensor 1 = Frequency 1 conductivity, primary, 2603, 11-jan-07, cpcor = -9.5700e-08
# sensor 2 = Frequency 2 pressure, 0445, 07-APRIL-06
# sensor 3 = Frequency 3 temperature, secondary, 2572, 11-jan-07
# sensor 4 = Frequency 4 conductivity, secondary, 2208, 11-jan-07, cpcor = -9.5700e-08
# sensor 5 = Extrnl Volt 0 WET Labs, ECO_AFL
# sensor 6 = Extrnl Volt 1 userpoly 0, 090, 01-FEB-07
# sensor 7 = Extrnl Volt 2 Oxygen, SBE, primary, 0540, 10-FEB-07
# sensor 8 = Extrnl Volt 6 altimeter
# datcnv_date = Jul 15 2007 20:38:42, 5.35
# datcnv_in = D:\DataCTDCTD001.dat D:\DataCTDCTD001.CON
# datcnv_skipover = 0
# file_type = ascii
*END*

```

## Data Processing Description

### BCO-DMO Processing Notes

- Awk written to reformat original .cnv files contributed by Allison Buchan
- AWK: HRS070714AB\_CTDcnv\_2\_BCODMO.awk

## Data Files

File
<b>CTD_Profiles.csv</b> (Comma Separated Values (.csv), 33.61 MB) MD5:ea7d0852c463ce2db4ae2a72a7c2d654 Primary data file for dataset ID 3489

## Parameters

Parameter	Description	Units
CTD_DataSet_Id	CTD Dataset Id	text
station	station id	text
date	Station date	YYYYMMDD
time	Station time	HHMMSS
lat	Station latitude from header record (South is negative)	decimal degrees
lon	Station longitude from header record (West is negative)	decimal degrees
scan	Scan Count	integer
timeS	Time Elapsed	seconds
latitude	Latitude	deg
longitude	Longitude	deg
prDM	Pressure Digiquartz	decibars
t090C	Temperature ITS-90	degrees Celsius
t190C	Temperature 2 ITS-90	degrees Celsius
sal00	Salinity	PSU

sal11	Salinity 2	PSU
density00	Density	Kg/m <sup>3</sup>
density11	Density 2	Kg/m <sup>3</sup>
sbeox0Mm_Kg	Oxygen SBE 43	umol/Kg
v0	Voltage 0	volts
svCM	Sound Velocity Chen-Millero	m/s
v4	Voltage 4	volts
sbeox0Mg_L	Oxygen SBE 43	mg/l
flag	flag 0.00E+000	0.00E+000

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## Instruments

<b>Dataset-specific Instrument Name</b>	CTD Sea-Bird SBE 911plus
<b>Generic Instrument Name</b>	CTD Sea-Bird SBE 911plus
<b>Dataset-specific Description</b>	CTD System: SeaBird Electronics 911 plus CTD, Rosette is a 12-bottle General Oceanic Model 1015, outfitted with an array of 10 liter bottles.
<b>Generic Instrument Description</b>	The Sea-Bird SBE 911 plus is a type of CTD instrument package for continuous measurement of conductivity, temperature and pressure. The SBE 911 plus includes the SBE 9plus Underwater Unit and the SBE 11plus Deck Unit (for real-time readout using conductive wire) for deployment from a vessel. The combination of the SBE 9 plus and SBE 11 plus is called a SBE 911 plus. The SBE 9 plus uses Sea-Bird's standard modular temperature and conductivity sensors (SBE 3 plus and SBE 4). The SBE 9 plus CTD can be configured with up to eight auxiliary sensors to measure other parameters including dissolved oxygen, pH, turbidity, fluorescence, light (PAR), light transmission, etc.). more information from Sea-Bird Electronics

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## Deployments

**HRS070714AB**

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/58668">https://www.bco-dmo.org/deployment/58668</a>
<b>Platform</b>	R/V Hugh R. Sharp
<b>Start Date</b>	2007-07-14
<b>End Date</b>	2007-07-19
<b>Description</b>	Funded by: NSF OCE-0550485 Original cruise data are available from the NSF R2R data catalog ( <a href="http://www.rvdata.us/catalog/HRS070714AB">http://www.rvdata.us/catalog/HRS070714AB</a> )

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## Project Information

### Determining growth rates of specific bacterioplankton (Assessing Roseobacter activities)

**Coverage:** Chesapeake Bay, 38N 76W

While an improved picture of the diversity and metabolic capabilities of environmentally significant microorganisms now exists, direct links between phylogenetic diversity and activity of heterotrophic marine bacterioplankton remain elusive. We propose to address this gap with a series of laboratory and field experiments designed with the ultimate goal of measuring in situ growth rates of specific members of the bacterioplankton by direct measurement of the expression of genes involved in fundamental cellular processes (e.g. cellular division, DNA replication, etc.). An advantage of this approach is that instantaneous population parameters are measured directly without labile DOC amendment or incubation. Also, the activity of specific bacterial populations, rather than entire communities, will be monitored and thus provide an improved understanding of the significance of community structure to ecosystem function. Efforts will focus on the Roseobacter lineage of marine bacteria. Members of this clade are ubiquitous and often abundant in marine plankton, have been linked to specific and significant biogeochemical roles and are a main focus of recent whole genome sequencing efforts.

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## Funding

Funding Source	Award
<a href="#">NSF Division of Ocean Sciences (NSF OCE)</a>	<a href="#">OCE-0550485</a>

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