

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:\Data\CTD\CTD001.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 |
|---|
| CTD_Profiles.csv (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 ³ |
| density11 | Density 2 | Kg/m ³ |
| 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

| | |
|---|---|
| Dataset-specific Instrument Name | CTD Sea-Bird SBE 911plus |
| Generic Instrument Name | CTD Sea-Bird SBE 911plus |
| Dataset-specific Description | CTD System: SeaBird Electronics 911 plus CTD, Rosette is a 12-bottle General Oceanic Model 1015, outfitted with an array of 10 liter bottles. |
| Generic Instrument Description | 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

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

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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 |
|--|-----------------------------|
| NSF Division of Ocean Sciences (NSF OCE) | OCE-0550485 |

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