CTD profile basic hydrographic data from R/V Seward Johnson cruise SJ0516 in the North Atlantic, largely between Ireland and Iceland in 2005 (NASB 2005 project)

Website: https://www.bco-dmo.org/dataset/3101
Version: 13 April 2009
Version Date: 2009-04-13

Project
» North Atlantic Spring Bloom 2005 (NASB 2005)

Contributors	Affiliation	Role
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Dataset Description

CTD profile basic hydrographic data

Methods & Sampling

No documentation was provided with these data.

The PI did confirm that these data were acquired using a Seabird 911 model CTD. The DMO made logical guesses for parameter definitions and units. The reported value for 'seafloor' is 1000 for every station location. The DMO suspects that this is not the actual depth of the seafloor.

The stations are reported from leg 2 of the cruise, stations 2-1 through 2-9, and the date range is 6 June 2005 through 3 July 2005, with the deepest station to about 1000 meters.

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Data Files

File
CTD.csv (Comma Separated Values (.csv), 3.25 MB) MD5:dcdf149d1993f6365d6cbf517bf4f1fd Primary data file for dataset ID 3101

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Parameters

Parameter	Description	Units
cruise_ID	cruise designation; name	dimensionless
station	station location identifier	dimensionless
ev_type	sampling event type abbreviation code	dimensionless
date	date (GMT) start of sampling	dimensionless
time	time (GMT) start of sampling	dimensionless
lon	longitude, in decimal degrees, East is positive, negative denotes West	decimal degrees
lat	latitude, in decimal degrees, North is positive, negative denotes South	decimal degrees
seafloor	estimated depth of the bottom of the ocean	meters
press	water pressure as measured by CTD pressure sensor	decibars
depth	depth; calculated from CTD pressure	meters
potemp	potential temperature, ITS-90 (from primary T0,C0 sensors)	degrees Celsius
salinity	salinity; from CTD; PSS-78 (PSU)	dimensionless
density	density, sigma T (from primary T0,C0 sensors)	kilograms/meter^3
cond	conductivity, from the CTD primary conductivity sensor	milliSiemens/centimeter
Oxygen	oxygen; dissolved; from CTD	milliliters/liter
Ox_Sat	oxygen saturation; from CTD	milliliters/liter
fluor	fluorescence, from CTD profiler, rescaled units are numerically equivalent to chlorophyll-a concentrations	micrograms/liter
PAR	Photosynthetically Active Radiation, irradiance	microEinsteins/meter^2/second
SPAR	Surficial Photosynthetically Active Radiation, surface irradiance	microEinsteins/meter^2/second
descent	rate of descent (DMO guess ??)	meters/minute

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Instruments

Dataset-specific Instrument Name	CTD Seabird 911
Generic Instrument Name	CTD Sea-Bird 911
Generic Instrument Description	The Sea-Bird SBE 911 is a type of CTD instrument package. The SBE 911 includes the SBE 9 Underwater Unit and the SBE 11 Deck Unit (for real-time readout using conductive wire) for deployment from a vessel. The combination of the SBE 9 and SBE 11 is called a SBE 911. The SBE 9 uses Sea-Bird's standard modular temperature and conductivity sensors (SBE 3 and SBE 4). The SBE 9 CTD can be configured with 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

SJ0516

Website	https://www.bco-dmo.org/deployment/57981
Platform	R/V Seward Johnson
Start Date	2005-06-03
End Date	2005-07-06
Description	This R/V Seward Johnson cruise, funded by NSF OCE/BIO (OCE-0423418), was conducted as part of the NASB 2005 US/EC Collaboration on Potential Climate Change Impacts on Algal Community Structure and Biogeochemistry During the North Atlantic Spring Bloom. It is uncertain whether a cruise ID was ever assigned. The US State Department designator was SJ-2004-126, possibly reflecting request for approval that began in 2004. The Oceanic Research Ship Schedules database (from the Ocean Information Center maintained by the College of Marine & Earth Studies at the University of Delaware) assigned JOH/05/0063 to leg 2 of this cruise. The BCO-DMO assigned SJ0516 as the unique cruise ID since leg 2 was the sixteenth cruise for R/V Seward Johnson in 2005. Cruise Synopsis adapted from the original text written by NASB 2005 project investigator Matthew Cottrell The R/V Seward Johnson departed from Fort Pierce, FL in June, 2005. The vessel first transited to the Azores (cruise leg 1, Florida to the Azores) where it spent two days before heading north to Iceland (cruise leg 2, Azores to Iceland). The purpose of this cruise was to explore the ecology of heterotrophic and photoheterotrophic bacteria in the North Atlantic. Surface waters were sampled during the transit across the oligotrophic Atlantic, passing Bermuda on the way. Depth profiles were sampled on the leg from the Azores to Iceland. Water was collected for a number of analyses. One of the most important assessed the effect of light on the growth of heterotrophic bacteria using 3H-leucine incorporation and the uptake of other organic compounds. We were especially interested in cyanobacteria, including Prochlorococcus and Synechococcus. Flow cytometery and flow sorting of radiolabeled cells was key to this project. Other analyses included bacterial abundance, bacterial production, bacterial community structure (FISH), community activity (Micro-FISH), chlorophyll a, bacterial chlorophyll a, and the abundance of aerobic anoxigenic phototrophic (AAP) bacteria.

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Project Information

North Atlantic Spring Bloom 2005 (NASB 2005)

Coverage: North Atlantic

Climate-related shifts in phytoplankton assemblages may have profound implications for oceanic feedbacks on the atmosphere, and for human use of marine resources. Particular algal groups are largely responsible for crucial processes like vertical carbon export, biogenic calcification and silicification, production of climatically active gases like dimethylsulfide (DMS), and for sustaining food webs that lead to economically valuable higher trophic levels. The North Atlantic Spring Bloom 2005 (NASB 2005) research program was designed to investigate potential climate change impacts on algal community structure and biogeochemistry during the North Atlantic Spring Bloom, a regime that is ideal for determining how changing ocean conditions may affect both calcareous and siliceous algae.

The research was coordinated with CarboOcean, a major European Union funded activity led by investigators from the Alfred Wegener Institute.

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-0423418

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