

The Biological and Chemical Oceanography Data Management Office

MAKING OCB DATA F.A.I.R.

Ocean Carbon & Biogeochemistry Summer Workshop 2019

FAIR GUIDING PRINCIPLES

Findable: Data are linked to descriptive, persistent metadata.

Accessible: Metadata are open, free and machine accessible.

The four FAIR Principles¹ comprise a set of values intended to guide data producers and publishers in establishing good data management and stewardship practices. These principles are at the core mission of the Biological and Chemical Oceanography Data Management Office (BCO-DMO). BCO-DMO data managers actively work with researchers to publish their data in ways that encourage reuse, by making data easily discoverable and well-described. Below, we highlight the approaches BCO-DMO takes in applying the FAIR Principles to enable open science.

Interoperable: Metadata are standardized, use vocabularies, and point to related metadata.

Get Data Map It

Reusable: Metadata are rich, and employ usage licenses, provenance and community standards.

¹Wilkinson, M. D. et al. The FAIR Guiding Principles for scientific data management and stewardship. Sci. Data 3:160018 doi: 10.1038/sdata.2016.18 (2016).

FINDABLE



Dataset: Cellular element quotas: Si in Synechococcus cells



Spatial Extent: N:31.6691 E:-64.1614 S:21.6699 W:-65.6664

Project: Understanding the Role of Picocyanobacteria in the Marine Silicate Cycle (Si_in_Syn)

Principal Investigator: Benjamin Twining (Bigelow Laboratory for Ocean Sciences)

Contact: Daniel Ohnemus (Bigelow Laboratory for Ocean Sciences)

BCO-DMO Data Manager: Ms Dicky Allison (Woods Hole Oceanographic Institution, WHOI BCO-DMO) Amber York (Woods Hole Oceanographic Institution, WHOI BCO-DMO)

Version Date: 2016-05-06
Restricted: No
Validated: Yes
Current State: Final no updates expected
Data URL: https://www.bco-dmo.org/dataset/644840/data

Dataset DOI & Suggested Citation Format

Clearly displayed on metadata landing page; Aids in citation and discovery through publications; Facilitates in quantifying metrics.

Robust Metadata

Searchable for data discovery at bco-dmo.org, Shared with other repositories like DataOne; Discoverable through Google Dataset Search

Data URL Persistent URL to access data

Description Related Publications Deployments Parameters Instruments

Abstract

Factors that affect the removal of organic carbon by heterotrophic bacterioplankton can impact the rate and magnitude of organic carbon loss in the ocean through the conversion of a portion of consumed organic carbon to CO2. Through enhanced rates of consumption, surface bacterioplankton communities can also reduce the amount of dissolved organic carbon (DOC) available for export from the surface ocean. The present study investigated the direct effects of elevated pCO2 on bacterioplankton removal of several forms of DOC ranging from glucose to complex phytoplankton exudate and lysate, and naturally occurring DOC. Elevated pCO2 (1000 – 1500 ppm) enhanced both the rate and magnitude of organic carbon removal by bacterioplankton communities compared to low (pre-industrial and ambient) pCO2 (250 – ~400 ppm). The increased removal was largely due to enhanced respiration, rather than enhanced production of bacterioplankton biomass.

Description

Google Dataset Search

This dataset includes results of laboratory experiments which measured dissolved organic carbon (DOC) usage by natural bacteria in seawater at different pCO2 levels. Included in this dataset are; bacterial abundance, total organic carbon (TOC), what DOC was added to the experiment, target pCO2 level. The experiments were conducted between 2012 and 2016 during the R/V Kilo Moana cruise KM1416, at the Bermuda Institute for Ocean Sciences (BIOS), and the University of Santa Barbara.

Processing Description

Experiment refers to the experiment name; sites refer to the Sargasso Sea, the Santa Barbara Channel (SBC) and the South Pacific Subtropical Gyre (SPSG); bacterial abundance; standard error and standard deviation. Toc refers to measurements of total organic carbon, for which the units are uM C.

DMO Processing Notes

• New data version 28 Nov 2016 replaces previous data version from 21 Nov 2013. This version includes more experimental runs. Data parameter names vary between the two data versions. This version also added lat/lon locations for sample sites.

- New data version 5 Nov 2016 which includes updated data for experiment O1
- added a conventional header with dataset name, PI name, version date
- modified parameter names to conform with BCO-DMO naming convention
- Data values of "None" replaced with "nd" meaning no data.
- Date format changed from mm.dd.yyyy to ISO date format yyyy-mm-dd
- More exact lat/lon value of 34.4070,-119.8433 for SBC, supplied by Anna James



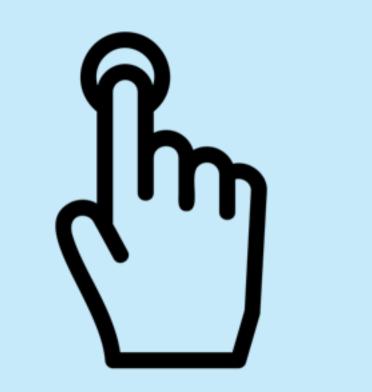
Dataset: Acetic Acid Leachable Trace Metals from	n Aerosols
View Edit Delete Revisions GCMD DIF Record Add new dataset Copy Contact Sta	atus Node Queues
Linked Data URI: http://lod.bco-dmo.org/ld/dataset/709276	Cite This Dataset
Get Data Map It	DOI:10.1575/1912/bco-dmo.7

Data Formats Easy access to various file formats



ERDDAP > tabledap > Data Access Form .

Ammonium (NH4) data from CTD rosette bottles from R/V Thomas G. Thompson and R/ Dataset Title: V Kilo Moana cruises TN277, KM1301, KM1312 in the Eastern North Pacific Ocean



	SOUTH-SAREAS
Spatial Extent: N:-4.0701 E:-77.657 S:-16.0003 W:-152.0003	Temporal Extent: 2013-10-26 - 2013-12-16
Project: U.S. GEOTRACES East Pacific Zonal Transect (U.S. GEO GEOTRACES Pacific section: Collection and analysis of at	
Principal Investigator: Dr Ana Aguilar-Islas (University of Alaska F	airbanks, UAF)
Co-Principal Investigator: Dr Clifton S. Buck (Skidaway Institute of Dr William M. Landing (Florida State Un	
Contact: Dr Ana Aguilar-Islas (University of Alaska Fairbanks, UAF,)
BCO-DMO Data Manager: Shannon Rauch (Woods Hole Oceanog	raphic Institution, WHOI BCO-DMO)
Version Date: 2017-07-19	
Restricted: No	
Validated: Yes	
Current State: Final no updates expected	

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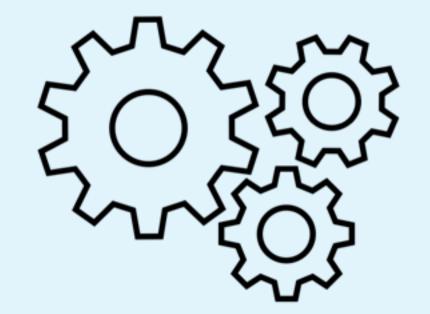
Subset and download data in preferred formats

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INTEROPERABLE

Qualified references to other (meta)data

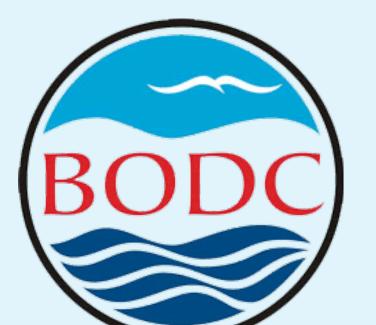
Temporal Extent: 2012-07-11 - 2013-10-13





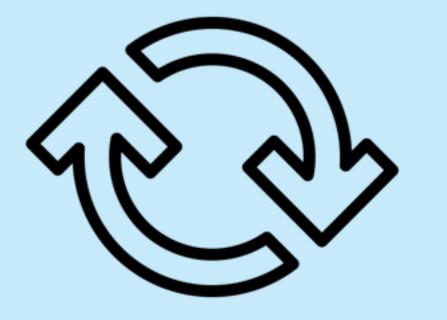


NERC Vocabularies @ BODC (BCO-DMO Instrument & Parameters)



Central point for many standards
Global adoption
Funded, mature governance model
Hierarchical (Parameter Types, Device Types)

REUSABLE



Robust Metadata

Critical information to understand and re-use data included in metadata.



Data Citation and

Sharing Policy

Licensing and citation provide clear guidelines for reuse, and ensure proper attribution to authors and contributors.

	Dataset: Rainfall and temperature data		
	Get Data	Cite This Dataset	
		DOI:10.1575/1912/bco-dmo.664755	
	+		
Data Citation:			
Hughes, A. (2019) DNA micro dmo.769969.1 [access date]	satellite alleles for hatchery-produced oyster cohorts. Biological and Chemical Oceanography Data Management Off	ffice (BCO-DMO). Dataset version 2019-06-06 [if applicable, indicate subset use	ed]. doi:10.1575/19
	Creative Commons Attribution 4.0 International License (CC BY 4). Per the CC BY 4 license it is understood that any use of the data se tact the original principal investigator(s) (PI). Should the relevant PI be unavailable, please contact BCO-DMO (info@bco-dmo.org) for a		sh to use this
	Project: LTREB Long-term coral reef community dynamics in St. John, USV Ecology and functional biology of octocoral communities (VI Octoc	VI: 1987-2019 (S	
	Ecology and runctional biology of octocoral communities (VI Octoc		

QA/QC of Data and Metadata

Data managers work with data submitters to resolve issues that prevent data re-use.



BCO-DMO.ORG Y@BCODMO

